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CHAMBERS'S JOURNAL



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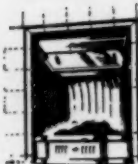
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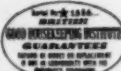
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DOWN : 2, April ; 3, Tepee ; 4, Reaper ; 5, Orange ; 6, Hill top ; 7, Goner ; 10, Truth drug ; 12, Cortisone ; 14, Ionia ; 18, Inert ; 20, Interim ; 22, Acetic ; 23, Odd cup ; 25, Gumbo ; 27, Snuff ; 28, M    .

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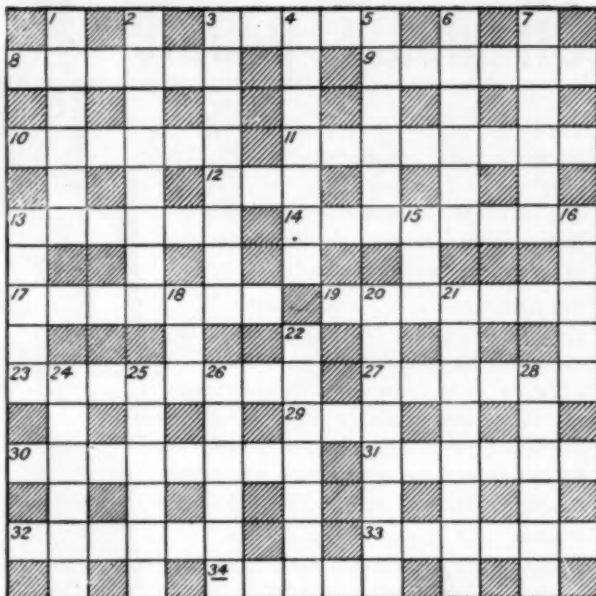
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CHAMBERS'S DICTIONARY

CROSSWORD No. 7

ACROSS

- 3 Principal part in cockfighting matches at a Scots home farm (5).
- 8 Thackeray wondered why they always put mud into it on board steamers (6).
- 9 Deaden the sound of an old boxing glove on a cow's nose and lip (6).
- 10 One with a very white skin and a pink pupil (6).
- 11 Let route by chance find the means of perforating paper or curling wigs (8).
- 12 That ought to be paid (3).
- 13 Cherry-coloured (6).
- 14 Dames (hic!) upset by Holland gin (8).
- 17 Badger-faced like Burns's Luath (7).
- 19 Whitefriars sanctuary for the dog-tired (7).
- 23 National Society for the Prevention of Society chap upset by Holland gin (8).
- 27 A thousand leave Malvern to reform in the spring (6).
- 29 Burmese umbrella found on a golf-course (3).
- 30 I am o' Shanter's whisky (8).
- 31 'Whether 'tis in the mind to suffer' (*Hamlet*) (6).
- 32 Dry measure used by the self-effacing to extinguish themselves (6).
- 33 The press is the fourth (6).
- 34 Drone flying about where Saul was bewitched by a familiar spirit (5).



Composed by ALEXANDER MACKENZIE

DOWN

- 1 'The tither was a ploughman's —' (*The Two Dogs*) (6).
- 2 Effie's getting round the G.I. to show heads on coins (8).
- 3 Accordion improved for lyric found in a melon (8).
- 4 It shows how the little devil gets the remainder by roney in advance (7).
- 5 'This South African pedlar seems to cheat with a hearty kiss (6).
- 6 Worn out by the Expeditionary Force festival (6).
- 7 Beetles' wing-cases carried by a lonely tramp (6).
- 13 Capuchin monkey mixing cubes (5).

DOWN (contd.)

- 15 Goldfish found in Mid-Surrey (3).
- 16 Everything I have makes a black Australian wild (5).
- 18 Egg-cells (3).
- 20 Even lard becomes a pale lilac colour (8).
- 21 Opaque tumblers (8).
- 22 Rats die over a starfish (7).
- 24 Loaded boxing glove carried in Venus's girdle (6).
- 25 It may be nothing at all, but to be this is to go to the mischief (6).
- 26 Grained leather, but the Scotch one is an agate (6).
- 28 So be it! Thanks for the catkins (6).

Six prizes of books from Chambers's catalogue to the value of twenty-five shillings each will be awarded to the senders of the first six correct solutions opened.

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The Glory Trail

PHILIP KENTISH

'DOG bus' me wide open, ain't she a li'l dream?' Willie whispered impressively as he stood with his head thrown back on one side gazing with a critical eye at the little green and silver biplane standing out on the field, the bright metal of the propeller-blades gleaming in the full hot sun. The words came from him spontaneously, and almost reverently, and you could see that he wanted everyone to appreciate the object that so deeply affected him.

I'd known Willie only a few days, and had come across him where we stood then, at the airport at Memphis, Tennessee, on a steaming-hot June morning. He was not the jet-black of the pure West African negro, but a deep chocolate, with alert, intelligent eyes, and showing with his frequent smile a row of shining white teeth which nature alone had seemed to care for.

He had been hanging around the airfield doing odd jobs for private pilots, showing a keen interest in the aircraft, and gaining the confidence of everyone with whom he came in contact by his happy nature and his zeal in carrying out any work he was asked to do, whether dirty or, as sometimes, responsible.

He had no use for sluggards among his own race, and his voice could often be heard near the hangars admonishing some work-shy negro. 'Git yo' fat backside offer dat grass, you lazy cur-nigger, you! All you do is fill dat snake's belly er yours full er po'k chops, den sleeps lak de vermin you is! Git up and work on dat job, you no-good houn'dawg. Dat's what you ain't nuthin' else but.' The victim would sullenly return to his work, bearing no malice towards Willie for the epithets.

Willie was born in Chicago, son of a wealthy undertaker who wanted his son to inherit the business, but he had shown early signs of a wanderlust, and everything and everyone that flew led him to drift down South, where there was big scope for barnstormers to make good money.

'Yas, sah! Ah's done qualified fer packin' par'chutes,' he told me with quiet modesty, for I knew it was a highly-skilled job. 'Ah's jes' rarin' to go,' he said gleefully, 'and crazy ter git ter ma wing-walkin' and stunts on de plane, lak Ah uster.'

He then informed me he had done parachute-jumping in Chicago for money, and

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walking out on to the wing while flying, as an added attraction for the spectators. 'Mis'er Sam Davies, he showed me all 'bout jumpin' an' moseyin' 'long de wing while we was flyin'. Ah wus jes' seb'nteen when Ah did ma furs' wing-walkin' an' jump, an' Ah wus fair crazy 'bout it fum den on.'

I asked him about his pilot.

'Mis'er Davies? He jes' dis'peared. Went flat broke, Ah reckon. Folks say he swallowed too much er dat hard likker, an' de debil cotched him.'

I knew too well what Willie's answer would be when I suggested that we should tour the Southern States in the little 'Travellair' I had recently bought, and which Willie was coming to love more every day. I said he could do his stunts and keep all the money he'd collect from the crowds, if we could get any, provided he looked after and serviced the plane, which would be his responsibility.

He was overcome with joy. 'Mis'er Bahnes, Ah'll sho come righd 'long wid yer 'mos' any time you git good 'n ready.'

From that moment it was *his* plane, not mine. He tended it and fussed over it as though it were a new-born babe, and many nights during our tour he slept beside it in the hangar or open field to guard it against any harm.

WE started off in the little cotton towns of Mississippi, many of which Willie had visited before, and he assured me that negroes in their thousands would come out to see what was probably their first aeroplane. And how right he turned out to be.

In the first town at which we landed for a show, Willie promptly but quietly took charge. 'Ah's gonna git dis show talked 'bout plen'y, an' no mistake,' he confided, and asked my permission to have posters made out advertising the jumps and passenger-rides at a dollar a time, which would more than cover petrol and all expenses. He said he would like to give the wording of the announcements at the typing offices, as he knew what would appeal to his coloured brethren.

Next day I saw the posters stuck on every shop-window, hot-dog stand, and on nearly all the negro-owned cars in town. They read:

COME ON OUT TO PIPERS' FIELD ON SUNDAY.
SEE WILLIE OUT ON THE WING OF AN AERO-
PLANE CLOSE TO HEAVEN. THEN HIS SUICIDE
LEAP DOWN TO EARTH. PASSENGERS CAN FLY

TO PARADISE AND BACK FOR A DOLLAR A
RIDE.

DON'T MISS SEEING WILLIE
DEFY DEATH!

'Dat'll bring 'em out awright,' he said, with a wide grin. 'Ah ain't committed no soocide yet, but, doggone, dey'd sho git deir money's worth if Ah did!' And he burst out into hilarious laughter.

This sidelight into Willie's business sense and knowledge of psychology shook me, as he had admitted he could neither read nor write, and he had never had a full day's schooling in his life. Yet he was very far from ignorant.

I always felt it was the same with Willie as it is with blind people, whose sense of touch and hearing is considerably sharper than that of the normal person. His keen perception and deep intuition, coupled with his real and very obvious love of living and urge to go ahead, overcame the lack of what would have been a purely superficial education. His desire to be in harmony with what was going on around him and to be a constructive part of the machinery of life produced in him first-hand knowledge of people and things such as he could never have got from books.

ON the day of the show hundreds of negroes poured on to the field from early morning—families with their piccaninnies, laughing, chattering girls in brightly-coloured dresses and scarves, young men and old, all eager to see the daredevil coloured boy who didn't seem to care whether he killed himself or not, and jostling near the plane to get their first aerial ride.

As an over-inquisitive negro ran his hand admiringly over the fuselage, Willie's voice could have been heard half-a-mile away. 'Git yo' han's offer dat, you low-down, no-count nigger, you. Don' you touch nothin' dere. D'ye wan' de whole contraption ter 'splode in yo' face, huh?' And, turning to the crowd, he went into peals of infectious laughter, which set them all shouting for joy. Willie was fully conscious that he was superior in every way to the lowly Southern negro, but he never asserted it unless he felt it his duty to do so.

In spotless white overalls he was doing some last-minute adjustments to his parachute and trappings when I noticed a very attractive-looking light-coloured girl, in a scarlet beret and plain flowered cotton frock, talking to him quietly.

THE GLORY TRAIL

He had never shown any signs of being attracted by women, though the adulation they poured on him could have made life very pleasant. But this seemed a different case. Looking at them, I felt there was more in their conversation than the casual and often facetious remarks Willie would pass to his admirers. I vaguely hoped it was so, for there was something steady and genuine about the girl's eyes, and a supple healthiness in the swing of her hips in walking—a trait which no white women display naturally—as she left him and melted into the seething crowd.

Like all negroes, Willie liked using long words, the longer the better, regardless of whether he knew the meaning of them or not, and they were always reserved for those of his own colour. Leaving the hangar, to walk out to the plane, he called out to a negro, who did odd jobs for me: 'You is de mos' aggrivat' nest nigger Ah ever come across. And quit bein' so doggone sancitimonyus, you durn lazy jackass, you. Ah's gonna git me a dawg-whip 'n lather yo' neberhimentos'. Now, extenuate yo' workin', or git out!' This was done entirely for the benefit of the spectators, for he was close buddies with our odd-job man. His showmanship was not for boosting his own ego, but for an honest desire to see things going with a swing and making his audience happy.

The day was a colossal success. After I'd taken the plane up to 1000 feet, I flew away from the sun, and at a prearranged signal Willie climbed from the cockpit out on to the wing and walked along it slowly, hanging on to the struts. Towards the end he clasped two struts firmly and, lying slowly on his back, raised his legs vertically and brought them to full stretch. Gradually he stood completely on his head, hands gripping firmly, and opening and closing his legs and swinging them in a circle. I knew then he was a genuinely good turn, and that he could be a really good money-spinner if things worked out right.

Climbing to 3000 feet and allowing for the wind, I signalled to Willie. He got out, jumped, and made a perfect landing almost exactly in the middle of the field, the negroes scattering wildly as he dropped amongst them. By the time I landed he had unhitched his chute and was passing his flying-helmet around the laughing, yelling crowd, who were dropping in dimes and quarters as fast as he reached them.

He greeted me with a smile so big it seemed

to fill his entire face. There was no blasé sophistication about him in front of these ignorant black people, contrasting them with his white audience up north. He just laughed breathlessly along with his admirers, shouting occasionally: 'Thank y'all, folks. Willie ain't done kilt hiself dis time,' or 'Sho is grateful ter see y'all again,' and then go off into peals of raucous laughter. I left him wending his way among the excited mob, his flying-helmet growing visibly heavier and heavier.

I HAD booked at other small towns by wiring the local sheriff for permission, and we put on our show, flying from one to another, often finding that Willie's fame had spread before him. The weather was brilliant, and we had ten days of unbroken success.

One evening in Natchez, a very picturesque and gay little cotton town, Willie fell from grace. After a bumper day in which he did two jumps in front of the biggest crowd we had drawn to that time, and had thrown in some impromptu tricks on the wing, he was taken off by a huge host of cheering fans to the negro quarters and fêted in an all-night celebration. When negroes in the South hold a party in honour of some hero, they don't do it halfway; and this was no exception.

It was to be a three-day show, and the following morning an immense throng had gathered at the airfield. Willie, however, did not turn up, and after several search-parties had been sent out he was eventually found dead-drunk and sound asleep in a hut beside the field. I saw that he was in no condition to jump, so I announced that his parachute was torn and that he would jump next day.

I was worried about this contretemps, because, regardless of what was probably pretty poisonous liquor impairing his judgment in jumping and aerial gymnastics, the amount of money he had collected, which must by then have been considerable, was in danger of falling into other hands. He told me afterwards, however, that it was always quite safe. 'Ah neber have kep' dem quarters and dimes over any one night,' he said. 'Ah go straight on into de nearest big store an' change 'em all into dollar notes. Den Ah wrops 'em all up an' stuffs 'em in mah sock, 'n dere ain't de nigger livin' as is gonna take dese yere high-boots offer me, no matter what state er foolishness Ah'm in. Ah's gotta be plum cold dead b'fo' dey kin do me dat way.'

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Although Willie's lapse had upset the programme, I arranged to take up passengers, and was just about to take off for the first flight, when Willie came running up with his parachute lying in a loose bundle, unfolded and draped over his shoulders. He had obviously put his head under cold water and was trying to impress me that he was sober. 'Ah's okay now, boss,' he said, trying hard to look cheerful. 'Ah swears ter Gawhd Ah is. Ah musn't neber let dahn de folks lak dis away, cos dey specs ter see me doin' mah jimmenastics up dere an' jumpin'.' He looked at me earnestly with bloodshot eyes and went on: 'Ah a'ways swo' 'fo' de Lohd Gawhd Ah'd do mah stuff when de spectaties wus waitin' fo' me, an' Ah's lett'n you dahn too! Ah jes' gotta go th'u wid it.'

I told him he couldn't possibly jump with his chute not packed, for, as he knew well, it was a long and painstaking job. But he swore he had jumped like that before when they could not afford to go without the takings at an airfield in Chicago. Oddly enough, I believed him, and on a sudden impulse I told him to get into the cockpit, and, without waiting to think, I took off.

ON the way up I saw Willie arranging the silk in some kind of order, and I climbed to 5000 feet so as to give the parachute every chance to adjust itself for opening. Then I looked around at him, and he promptly gave me the thumbs up signal. Without a sign of showing there was anything unusual, he got out with the chute under one arm and, holding the harness firmly with the other hand, jumped clear. I put the plane into a steep dive and to my intense relief saw the chute open within a few seconds of his leaving. The sweat was pouring over my eyes with anxiety as I fully realised what a mad risk I'd taken, though I knew that to Willie it was just another jump.

But it wasn't over yet by any means. Every town in those parts has high-power electric-wires leading in and carrying the electric-power supply, and here the pylons led past the field, and within a few hundred yards of it. As Willie was dropping, the wind was taking him directly towards the wires, and as I dived I could see him clearly struggling to pull more of the right-hand cords so as to slip the chute sideways and miss them. I knew the wires carried fifty thousand volts, and I knew he knew it too, and that he'd be dead in a second

if he even grazed them. The few white cotton-farmers in the crowd must have written him off as a dead nigger, as indeed I had, for I was well aware it was a hundred to one chance against his clearing those layers of wires. As I circled close to him I held my breath as he drew his knees up to his chest in an effort to avoid instant death. And then, as his feet were tucked tightly up, he passed by not more than inches over the top of the wires.

I saw him land heavily on the roof of one of the negro huts beside the field and hang on to the coping. Within a minute I had landed, and after getting out of the cockpit I sat down on the field and was violently sick from the reaction of the last few moments of appalling tension.

Walking towards the crowd, I saw Willie had already come into the field and was passing his flying-helmet around, guffawing as loudly as any of the spectators, most of whom were blissfully unaware of his miraculous escape from death. When he saw me, he came up with a grin as big as ever. 'Ah sho nearly bus' dem cables dahn,' he laughed. 'Ah wus reck'nin' when Ah went over 'em it would uv bin jes' too bad er me to uv done de folks outer 'lectric-light ternity!' And he grinned at the negroes milling around us.

I was staggered. 'But, Willie, I thought you knew it was deadly to touch those wires.'

'Yes, sah, Ah knew all 'bout dat,' he said, more quietly. 'Ah saw Mis'er Bud Clarke in Chicago, knew 'im right well. He jumped once an' hit de high-pah cables, an' Ah's tellin' you de truth he wus stone-dead an' burnt up lak er piece er coke when we got to 'im. All 'is flesh wus shrivelled off uv 'im.'

Never did I feel more than at this moment that with his complete lack of nerve, and if his luck held, Willie was destined for far bigger things.

Later that evening, after the sun had set and the crowd had gradually dispersed, Willie was helping me with a small job on the under-carriage, and I asked him if he ever realised how close to death he lived. His answer was typical of him. 'Ah neber have reckoned on dat, Mis'er Bahnes,' he said cheerfully. 'Ah know Ah's mighty glad ter be alive, an' anyhow Ah feel de Good Lawhd's gonna look after me de bes' way he knows.'

'Is there no one really close to you who will mind a lot if your luck fails?' I asked him, thinking of the attractive-looking darkie girl in the bright beret.

'Done los' touch wid mah own folks,' he smiled, 'an' no coloured girl's wantin' ter hitch up wid a no-count wand'rin' hobo lak me. Ah jes' don' feel dat way 'bout no gal.'

I knew he was lying, but why shouldn't he? He was the most sincere and open-hearted person of any colour I had ever met. I felt, too, that it was his type who so often die young.

BEFORE leaving Memphis I had heard there were two young Southern airmen touring the cotton-belt, doing jumps and passenger-rides, but without Willie's unique aero-gymnastics and inimitable personality. So, on coming over a town where we were stopping for petrol *en route* for Louisiana, I was not altogether surprised, though a little annoyed, to see a big crowd coming out on to the airfield to watch the rival show.

It was, however, a much more unhappy coincidence that the parachutist jumped to his death that day in front of us. I had known the pilot and his jumper, Tubby Holzen, a reckless and popular Swede in New Orleans, and Willie had worked in the past for both. They took off for the jump as we were about to leave again, and I noticed Tubby take a long drink from a flask before he walked up to his plane.

We watched him jump from about 3000 feet, and I shall remember that jump as long as I live. He fell like a stone the whole way down into a cotton-field beside the landing-ground, the parachute never leaving its place close to his body. The noise of him hitting the earth was the most sickening sound imaginable, but I knew as I ran with Willie beside me to where he had fallen that there was worse to come. It was even worse than I expected. The hollow made in the soft earth by the impact was fully three feet deep, and the bones of Tubby's broken arms were sticking gaping through holes in his thick leather flying-jacket. The other details do not bear repeating.

After talking to the pilot, there was no point in staying, especially as I was feeling pretty sick, but, to my surprise, Willie begged me to stay long enough to see if he himself could do anything at all to help, as Holzen and his wife had been very helpful to him in the past.

In all my years of close contact with negroes I have never seen one looking so utterly distressed and miserable, even about their own personal sorrows, as Willie did over the

thought of the news reaching Holzen's wife. I felt that if it were physically possible for a negro to go white, Willie would have turned pale with anguish then. 'Dat jes' ain't right,' he told me quietly. 'He didn' oughder 'er died. He wus de square-shootin'est white man dat de Good Lawhd eber put on dis earth.' Then after a pause he added: 'But Ah reck'n de Lawhd got it all figured out.'

They found that Tubby had made no effort at all to pull the rip-cord, and later a note was found in the pocket showing that he intended to get rid of himself, and stating a very unfortunate reason for it. I was more than interested to notice that this incident had absolutely no visible effect later on Willie's cheerful outlook and his attitude towards jumping.

As I got to know him more intimately, I realised that Willie, despite some very normal human failings, was a man among men, with a deep sense of loyalty, and that, like the better elements of his race, he was an unaffected extravert. His broad, simple sense of humour had overcome all the trials and tribulations which we have long heard of in negro folklore and songs.

THAT week I told Willie I intended to return to Memphis by way of the small town at which we had put on our first show, and, although I was expecting him to appear sorry that the tour was nearly over, he seemed resigned to it. He turned quiet and pensive, and I guessed his disappointment was lightened by the thought of revisiting his girl with the scarlet beret.

I asked him how he felt about doing a delayed-jump from 10,000 feet and carrying an altimeter, as a farewell performance which would be certain to bring out a record crowd, adding to the already nice sum of money taken. He agreed promptly, and reckoned he should have nearly five hundred dollars to put into the bank—'Ter take care er any li'l evencheralities,' as only Willie could describe most young men's natural yearning for marriage and a home.

Before flying back, we had discussed fully plans for the last big day, which was to be Willie's farewell benefit occasion, so that on landing we were ready with our advertisements, and all set to practise the various new stunts Willie had thought up.

On the Sunday, crowds were swarming in,

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even from neighbouring towns. Willie, in immaculate white dungarees, went through every performance without a hitch, including, to my great relief, the 'Devil's Death Drag,' as he had christened it. This involved my driving a Packard touring-car with Willie dragging at the back of it, lying prone, feet first on a light toboggan-shaped framework, and careering at over sixty miles an hour up and down the length of the airfield. As his head was only about three inches from the ground, it looked like sheer suicide, but he had worked the padding and straps so that it was safe enough, and still gave the biggest thrill to the spectators.

Perhaps the most impressive stunt was when Willie, lying flat on the wing of the plane, held in each hand a long thick string which trailed over the rear wing-edge and had large three-barbed fish-hooks attached at the ends. Out in the middle of the field we had put a big Stars and Stripes flag flat on the ground, and as we flew full-throttle about three feet over the field I dipped the right wing so that the hooks caught on to the flag, and Willie hauled it up, gradually straightening it out so that it flew majestically out from the wing. Binding it securely outstretched, Willie would slowly rise and, keeping his left hand firmly grasped on to a strut, would stand smartly to attention and come to the salute, which he held while we flew low several times over the cheering crowd. All this required practice on my part, but Willie with an infinitely more difficult and hazardous job seemed to take no time to master it with perfect precision. 'Dat cer'nly will show 'em all ole Uncle Sam's righd here wid 'em,' he said. 'Dere ain't nudn lak de good ole Stars and Stripes for ter make folks good 'n happy.' And the cheering and waving that went on from the crowd fully justified Willie's words.

WHEN all was ready for the high delayed-jump, Willie emerged from the hangar, wearing two chutes, 'Jes' in case de furs' one don' wanna play ball,' he explained to his friends amidst loud laughter.

For calling out details of his various stunts he had borrowed from the local high-school a big tin horn, used by football fans to yell their team to victory, and he now regaled the crowd with the awe-inspiring details of the coming delayed-jump. 'Willie will now leap fum ten thahsan' feet and will drop sheer lak a fawlin' star fer nine thahsan' of 'em, obeyin'

on'y de laws of grabity.' After this startling announcement he went into gales of laughter, in which the crowd joined. Then, in a serious but happy voice, as though proclaiming the Second Coming, he went on: 'Ah will appear to you no bigger'n a locust in de sky, leavin' behin' me a trail ob white glory.'

The trail of white glory was the contents of a ten-pound linen bag of flour which he had fixed securely to his hip, and which he would split open with a pocket-knife. He had done this stunt several times in Chicago; but before a crowd of ignorant but God-fearing Southern negroes Willie reckoned it would be talk of all time. 'Ah'll be close to de Lawhd up dere,' he called out loudly in a dramatic voice through the horn, 'an' maybe Ah'll bring dahn a message to y'all straight fum St Peeder.' As the dense crowd milled around he weaved a way out to where I stood by the waiting plane.

At that moment a car drove into the field and out towards the plane. It was a pilot friend of mine who had heard of the air show, and that I was there. I realised that this was my one big chance to get some unique coloured moving-pictures on the cine-camera which I always had with me, and I lost no time in persuading my friend to take Willie up, giving me the opportunity to secure shots of as much of the jump as I could.

After I had given my friend some details for the jump, including gauging the wind, and dipping the wing at about 10,000 feet to help Willie out, I called 'Happy landing' to my carefree negro friend, who just then was looking down from the cockpit into the up-turned face of the girl with the beret.

He turned away from her to me and grinned broadly. 'Too bad you ain't droppin' me dis one time, 'cos dis sho is gonna be Willie's big day.' Then he turned and waved to the huge crowd, who were yelling, waving, and clapping with joy, some calling out about meeting the angels and St Peter, and shouting many Biblical allusions, in which the Southern negro is always well versed.

By the time I was ready with the camera, the plane looked very small in the sky, and I noticed that a slightly stronger breeze had come-up from the south. After a few minutes a yell went up, and I saw a tiny snow-white dot below the plane. This quickly expanded into a long white straight line, and then, in about half-a-minute, a tiny dark blob appeared at the bottom of it.

THE GLORY TRAIL

The spectators were now screaming wildly with excitement, many firmly convinced, it would appear, that this indeed was the Day of Judgment, and that they would be taken up in the Glory Trail when it reached them.

Although I trusted Willie's judgment implicitly, I felt very relieved when the white silk billowed out over the dark spot at the end of the now fluffy white streak, and a cry went up that Willie was safe. I thought then of the now exploded theory that one loses consciousness after dropping a few hundred feet, but realised, too, that Willie's body had received a terrific jolt as the parachute cracked open above him.

He had timed it beautifully, pulling the ripcord at about 1500 feet, the white flour gathering in a great cloud around him. Here it made the most perfect picture—the huge white umbrella, Willie's white dungarees gradually coming into view, and the long white flaky stream stretching as far up as the eye could see, and all standing out vividly in the glaring sun against a bright blue cloudless sky.

As the wind carried him slowly over the field, a huge mass of brightly-coloured dots like confetti suddenly burst away from the drifting figure and came floating down, a spreading cloud of red, green, yellow, blue, and white specks, glittering in the sunshine, over the heads of the awe-struck spectators. Willie must have taken great pains to prepare this stunt, and I could only imagine his tremendous thrill on hearing the cheer after cheer that went up from beneath him.

It was then, however, that I noticed that Willie could not possibly drop on the field, for the wind was taking him clear over and beyond the boundary. Although a cotton-field would have been just as good to fall in, I realised that he was headed direct for the town's reserve reservoir, a large deep artificial lake.

As I broke away from the crowd and ran in that direction, I saw that many other townspeople, as well as negroes, had realised the same thing before me and had reached the reservoir some time before I could get there. On arriving, I could tell that Willie had dropped well out in the middle, for several rescuers had already dived in and were a long way out, swimming hard, but I could see no signs of Willie in the water. Near to me a rickety boat manned by some hefty school-

boys was pulling out, so I jumped in, and learned from the boys the direction in which Willie had been last seen before sinking.

Although he might never have swum in his life, I felt he had the sheer ability to force his way to the surface and reach the side, or at least to have somehow kept afloat, if it were not for the weight of those two chutes and the masses of heavy wet silk which must have covered his head like a vast shroud. I was a non-swimmer and could give no further help, as there were now more than twenty men, white and black, plunging down and coming up for air, many holding pocket-knives ready to cut the cords and silk if they could once locate Willie.

After an eternity, which was about ten minutes, a shout went up that two men had seen him at the bottom and were working to cut him free. Others joined them, and presently he was brought to the surface, and eventually to the side. As I came up, the local policeman, who had arrived and had stripped to the waist, tore off Willie's flying-jacket and shirt and worked madly to revive him by artificial respiration.

By this time a big crowd of negroes had gathered around, some with a look of horror, others with blank despair, muttering and murmuring and covering their heads in their big horny hands. Above the sobbing of some negro women beside me I caught snatches of prayers for Willie's soul, and one close to me sobbed in a whisper: 'De Good Lawhd sent him dahn on de Glory Trail, an' now he's called 'm back to heb'n.'

I went up close to the policeman, whose face and bared chest were running with sweat as he strove furiously to pump air into the water-filled lungs. He had worked madly without a break for twenty minutes, and at last, as I bent down with him, vainly trying to hear a sign of breathing, he turned to me, slowly shaking his head. Then he shouted for the crowd to move back.

I inwardly cursed changing my plans about taking Willie up, as it was a hundred to one I would have chosen a slightly different spot for the jump. Fifty yards at 10,000 feet is a small distance, but it might have saved his life.

I asked that Willie could be brought back to the hangar, so that I could attend to his things and make arrangements. Before an overcoat was put over him I looked down into his face, and a serene smile seemed to play on his lips. His words came back to my mind: 'Ah jes'

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feel de Good Lawhd's gonna look after me.' I felt sure he would.

We hoisted him up and carried him between us, and as we walked through the stricken

crowd I saw a scarlet beret moving slowly away on a dark head bent low, and a small white handkerchief clenched tight in dark slender fingers.

December First Story: *Inconstant Star* by Margaret Cousins.

Hitch-Hiking in Africa

JILL DONISTHORPE

SITTING by the roadside in Tunduma, in the shade of a small tree, I could see the road stretching away to the horizon, wide, straight, and empty. Near by, a small child looking after some donkeys gazed inquiringly at me, wondering, no doubt, why I chose this uncomfortable place when there were chairs in the rest-house garden. But I dared not leave the road in case a car came and I missed it. A hitch-hiker in Africa cannot afford to lose a single chance, since the next one may not come for days.

A sign reading 'Change time and money here' indicated that this was the border of Tanganyika and Northern Rhodesia. In the afternoon the shade would go from my tree, and there would be only the hot sun, the dry prickly grass, and the emptiness. An occasional rumble would break the silence as a lorry passed by going up north; but for two whole days not a single vehicle went south. That illustrates what the hitch-hiker is up against in this land of vast spaces and few people. That wait in Tunduma was certainly not my longest wait for a lift, but it was the most monotonous, since I was tied to the spot and could not even take a walk. One does not in the ordinary way rely on hailing lifts on the road, since there is so little traffic, and this was the first time I had attempted it.

My 8000-mile journey from England to

Johannesburg was accomplished in ten hops —by air from England to Cairo, train and steamer from Cairo to Khartum, by lorry from Khartum to Juba, by air from Juba to Nairobi, truck from Nairobi to Mbeya, private car to Tunduma, army truck to Lusaka, then by three stages by private car on down to Johannesburg. Of the ten hops, the train and steamer journey from Cairo to Khartum, costing just under £9, was the only part I had to pay for.

Hitch-hiking is a well-established pastime in Europe, and the hitch-hiker has his accepted place in the life of to-day. With travel free and Youth Hostels providing accommodation for about 1s. 6d. a night, it is possible to visit faraway places which would be out of the question by normal methods of travel.

In Africa, the whole set-up is different. Distances are so great and traffic so sparse that normal methods are not to be thought of. In Europe, for instance, there is no point in standing still. You start walking, and when something comes you hail it. In Africa, to start walking until something came might involve you in a stroll of 50 miles or so. The only thing to do, therefore, is to ferret out inside information on traffic movements, and, if possible, get lifts fixed up in advance. There is one advantage, though—the lifts you get may be more difficult to come by, but they will be longer. At home, 100 miles is quite

HITCH-HIKING IN AFRICA

a hop with one driver; here, one person may take you as much as 1000 miles.

I REMEMBERED reading of an unusual journey made by two English girls who hitched a large part of the way from Rhodesia to Egypt. What struck me was the number of air-lifts they had, mostly in freighters. Heartened by this, I determined to try for air-lifts myself, though not too many, because there is no denying you miss a lot of local colour by flying. I was lucky twice. The first lift, in a small 4-seater being ferried out to Egypt, took me from England to Cairo by way of France, Italy, Greece, and Crete. It was a gift, since it cut down the time spent in wintry Europe and plunged me straight into the springlike weather of Egypt.

The second air-lift was from Juba to Nairobi, in a private Dakota belonging to a millionaire big-game hunter. It was returning to Nairobi empty, having just delivered a hunting-party to Juba. This chance came in the nick of time, because the only hotel in Juba charged 30s. a day, and I was nearly out of Sudanese currency.

How does one set about getting lifts? I had no idea when I started, but I developed a technique as I went along. At each stop I would try to get some names of people to contact at the stop ahead. I would also contact the local paper, tell them what I was doing, and see if they had any bright ideas. From Athens I got names in Cairo, from Cairo in Khartum, from Khartum in Nairobi, from Nairobi in Mbeya, Salisbury, and Johannesburg. Sometimes the chain broke down; the people whose names I had been given could do nothing, and help would come from quite another quarter, but it was nice to meet my contacts and I found it cheering to the morale to have an introduction up my sleeve and to be able to get in touch with a fellow-human in a strange town.

On one occasion the introduction played an invaluable part in a very lucky break—getting the air-lift from Juba. I had come down from Khartum by lorry and on the way we stopped at Malakal, a small town on the Nile and the only one on our route containing Europeans. There was a party on, and, as there were only seven white women in Malakal, I got roped in as a novelty. A couple at this party gave me the name of a radio-operator at Juba aerodrome and suggested that I should

get in touch with him. My first morning in Juba I rang him up, and, although he was on duty himself, he sent one of his colleagues along to look me up. We drove down to the aerodrome to see what the prospects were and discovered a Dakota all set to take off for Nairobi, empty except for the crew. The pilot said his instructions were to take no passengers, but he would hold on while I contacted the owner. After some frenzied telephoning I succeeded, and permission was given. You may say that I could have fixed this by my own efforts, but I doubt it. On my own I should probably have tried Flying Control, which was manned by Sudanese officials, great sticklers for etiquette who do not understand hitch-hiking. I am convinced that without that chance introduction I would never have got that plane.

ANOTHER item invaluable to the hitch-hiker is the telephone-book. In England, each local directory is so large and so full of private names that one could waste hours looking through it. In Africa, however, it is different. In a small town the directory may be only a single page, and in a large town it is still small enough to be looked through from end to end in a short time. Interesting things can be learned from it. In Khartum, for instance, I discovered that there was an outfit called the Public Relations Department. I have since realised that every capital city has one, but I was very green in those days. I rang them up, and, in addition to helping in every possible way, they found me a job, a life-saver, in view of the fact that I had to wait over three weeks for a lift. I was paid by the day, and it was agreed that I could leave at a moment's notice, so altogether I considered myself very lucky.

Strangely enough, it was the phone-book that got me the lift too. I was counting on an air-lift, knowing that the road was hardly ever used, and various people were helping me in that direction. But I had also noticed a heading: 'Mechanical Transport Department.' That, I thought, surely meant lorries, and lorries might sometimes go south. So I rang up and was astonished to hear that there was a convoy going to Juba in a few days. It was the first for three years, and if I had rung up a day later I would have missed it!

After this experience the first thing I did on reaching Nairobi was to read the telephone-

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book from cover to cover. But this time, being low in funds, I was after a job. I made a list of likely-sounding concerns, obtained 2s. worth of ten-cent pieces, and shut myself up in a sweltering phone kiosk. I was literally dripping when I emerged, but I had got an interview. The outcome was a job which lasted over two months. It was arranged that after a month I could give my notice in retrospectively, which was the same thing as saying I could leave at short notice, convenient in view of the unpredictability of lifts.

IN Africa, as one gets further south and roads improve, there is more traffic, and so normal hitch-hiking—that is, thumbing by the roadside—becomes possible. It is quite feasible in the Union, and I found it possible, though by no means easy, in Southern Rhodesia.

I arrived in Lusaka to find the only two hotels full. As I had hoped to organise my next lift from the hotel, this was a snag. I was less worried about the accommodation problem than the problem of contacting possible travellers. However, a good-natured stranger who had heard my request stepped into the breach and drove me to a hotel a few miles out, luckily in the Salisbury direction. The hotel was empty owing to repairs, but the manager took pity on me and I was allowed to stay.

Having no means of fixing a lift in advance, there was nothing for it but to sit on the road again. Directly after breakfast the manager drove me to the main road and deposited me, baggage and all. This was my first experience of the real thing. At Tunduma, where I had sat for two days, the rest-house was right on the main road, so that I could keep watch without carting my luggage along.

Several vehicles stopped, but they were only going a few miles. Eventually a motorist suggested that it might help if I went about ten miles with him to a cement factory, where there might be some lorries going my way. I agreed, and took up my stance at the new position. There were no lorries leaving the factory, however, and after an hour or so I had visions of returning with the same man at the end of a fruitless day! The few passing

cars seemed to be local, and after a bit I gave up asking for Salisbury and asked for Kafue, only 20 miles away, where I knew there was a hotel, but even this seemed to be too ambitious.

I was afraid by now that all long-distance traffic had passed in the early morning before my vigil began. In the end I got a lift to Kafue, and, arriving just about lunchtime, was quite prepared to spend the night. But my luck turned. A car with a Salisbury number-plate was standing outside the hotel. I approached the owners, who were having a snack, and they agreed to take me on. Apparently they had already passed me, but I was looking so deliberately the other way that they had not liked to stop! How this can have happened remains a mystery.

WHAT of the financial side of a trip of this sort? Can it really be done on a shoestring? I would say definitely 'Yes.' The fact that the much-publicised overlanders spent large sums before finally reaching their destinations may give rise to the idea that expense is unavoidable, but this is not so. I allowed £50 to cover the trip, and by stopping to work before I was in really low water I managed to arrive with a few pounds in hand.

When it is not possible to get work, one must strike a balance between hanging on for a lift while hotel bills mount, and ignominiously taking a train, which may be cheaper in the long run. I was forced to do this in Egypt, but that was the sole occasion. The cost was less than £9 for 1000 miles, second class, so I think it was probably a wise admission of defeat.

Accommodation is the main problem, there being no convenient Youth Hostels as in Europe, or even cheap boarding-houses. Hotel life is expensive, and the alternative is a tent. I was lucky in having two camping trips, from Khartum to Juba, and again from Nairobi to Mbeya. I thoroughly enjoyed them, and would like nothing better than to camp all the time, but it cannot always be managed.

Taking it all round, Africa is a hard nut to crack. But the greater the problems, the greater the sense of achievement. I'm still mad about Egypt, though. I'd like to go back and do that bit again.

Viewing the Total Eclipse

G. D. MOYLAN

THE total eclipse of the sun on 30th June 1954 was the most accessible for many years to anyone living in the British Isles, and expeditions to see it were being discussed as much as two years in advance. The track of totality, which stretched from Minneapolis to Jodhpur, after crossing the Faeroes passed north of the Shetlands—the island of Unst being just within its southern edge—and then on through southern Norway and Sweden. The British Astronomical Association, in conjunction with the Royal Astronomical Society, proposed several expeditions, including a one-day trip by air from London to a point north of the Shetlands; but in January this trip had to be cancelled owing to insufficient support on the part of members.

To join the expedition to Sweden, which was to last ten days, was out of the question, as I could take only one day off. My only chance to see this eclipse, therefore, was to revive the one-day air-trip and run it myself. January, however, seemed too early to start trying to collect passengers, and I decided to do nothing until May.

The aeroplane selected for the original trip was a de Havilland Dove. This can carry ten passengers and has a large area of window-space in proportion to its size. It was essential that all passengers should be able to see out of the starboard windows at the same time in order to observe the eclipse, and this reduced to eight the number that could be taken. Inquiries among my friends early in May showed that I should not find the necessary seven companions among them, nor did I succeed in persuading the charter company to undertake the collection of passengers. I therefore decided to advertise.

This presented a further difficulty. I was told that it was illegal to advertise for passengers for a private trip, as is in fact the case

with trips by coach. But consultation of the Civil Aviation Act showed that advertisement of a private trip was not forbidden provided there was no intention of operating a scheduled service. I still do not know when a total eclipse of the sun will next be visible from the same point north of the Shetlands, but certainly not within the next two centuries. I should, therefore, have no difficulty in proving that this trip would not develop into a scheduled service. What the position would have been had the eclipse been visible over, say, Paris, I do not know.

Armed with this knowledge, I put an announcement in the Personal column of *The Times*. This attracted the attention of the popular press, and my trip received mention in London, provincial, Scottish, and Irish papers. I quickly received over twenty-five inquiries. They came from all over England and from all sorts of people, including a countess, the principal of a theological college, the ambassador of an Asian country, and one gentleman who thought the trip was free! I soon had seven firm applications and several reserves, though not enough to enable me to run a second aircraft.

MY plan was to take off from Croydon Airport at 5 a.m. and fly direct to Kirkwall in the Orkney Islands, where we would arrive about 9.15. Leaving again about 12.15, we would fly up to the centre-line of the eclipse-track, and turn along it so that the eclipse, coming up from behind, would overtake us at about 1.25. Within a few minutes of the end of totality we would alter course to return to Kirkwall en route for Croydon. The three-hour stop at Kirkwall was to allow for head-winds and unforeseen delays. With totality lasting only about 2½ minutes, we could not afford to be late.

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A de Havilland Dove is an unpressurised aircraft. Its ceiling is about 20,000 feet, but above about 12,000 feet it was likely that the passengers would suffer from lack of oxygen and the other effects of altitude, especially as we should be climbing straight up from sea-level. We therefore intended to observe the eclipse from 10,000 feet, above the thickest part of the atmosphere but below the level of discomfort from altitude.

All was now set; but there remained the weather. The pilot had arranged to receive the reports from the Atlantic weather-ships for several days before 30th June, so that we should know the long-range forecast for the eclipse area. When I rang him up on the afternoon of 29th June, the forecast was as bad as it could be—a warm front north of the Shetlands, with cloud up to at least 18,000 feet! But meteorology is not an exact science and I remained firm in my intention to go.

Two days earlier, the pilot, foreseeing that we might have to go considerably above 10,000 feet and that oxygen might therefore be necessary, arranged with a firm to supply masks and cylinders at this short notice. They were to prove essential.

Most of the party assembled at Croydon Airport Hotel the evening before, as we intended to take off at such an early hour. A head-wind of thirty knots was forecast. This meant that we should have to come down at Newcastle to refuel instead of flying to Kirkwall without a stop. As Newcastle Airport does not open until 7 a.m., we delayed our start until 5.24, so as not to arrive there too early. After a forty-minute stop at Newcastle, which we reached at 7.10, we flew on to arrive at Kirkwall at 9.50.

As we flew north at about 3000 feet there was little cloud below us and we were able to follow our route the whole way on the maps we had brought. This added greatly to the interest of the flight. I now know for the first time in my life the shape of the Round Pond in Kensington Gardens. After leaving Newcastle, we crossed the coast just east of Dunbar, left May Island close to port, re-crossed the coast at Montrose, and then flew on over Aboyne and the Moray Firth. We first met low cloud south of John o' Groat's. We came clear of this, however, over the Pentland Skerries and had a fine view of the

north coast of Scotland, Scapa Flow, and the Orkneys. But looking north we could see that ahead of us was thick cloud for a great distance and to a considerable height. The warm front was there.

Fortunately it had travelled more quickly than had been forecast and was now some way to the east, so that we were out of the worst, though still in the warm sector. We now revised our original plan. Instead of going to the centre of the track at a point north-north-east of Unst, we decided to make for a point about a degree further west, so as to clear as much as possible of the cloud, which would become thinner as we flew towards the western edge of the warm sector.

In view of the uncertainty of the cloud conditions, we took off from Kirkwall at 11.20, an hour earlier than intended. We climbed steadily through cloud to about 8000 feet, when we came clear, only to find second solid cloud above us. We climbed to a further clear area at about 14,000 feet, but there was still cloud, though thinner, above us. As a result of this rapid climb, I began to feel the effects of altitude—lethargy, headache, and sickness. We levelled out at this height, and the navigating-officer came aft and turned on the oxygen. A few deep breaths and all ill-effects disappeared. None of us had used this equipment before, but it was both comfortable and refreshing, and without it we might well have failed to see the eclipse. In the general excitement shortly before totality, two of the connecting pipes were trodden on and broken, and thereafter we had to pass the masks round. Then someone noticed that the pilot's mask was connected to nothing at all! It was impossible to repair the connection, but he put the end of the pipe in his mouth and this extempore arrangement seemed to work very well.

With the oxygen equipment fitted, we resumed climbing, and at 16,000 feet were clear of all cloud except some thin patchy cirrus a long way above us. North and west of us there were gaps in the cirrus, and in this direction we flew.

WHILE we had been flying north we had unshipped the seats on the starboard side of the aircraft and rehearsed taking our positions at the windows. There was none too much room, but all were able to see. We had also watched the partial phases of the

VIEWING THE TOTAL ECLIPSE

eclipse. These caused no noticeable diminution in light until about ten minutes before totality commenced. The glare of the sun at this height was so great that its visible segment was not a well-defined crescent with pointed cusps, but appeared more like a semicircle with a small bite out of its centre that grew steadily until it reached the circumference. As the time of totality approached, we saw to the north a large gap in the cirrus cloud. We flew for this, and reached it just at the moment to turn to starboard to fly down the line of the eclipse. The sun remained in this gap for the whole of totality, thus giving us a perfect view.

The moon's shadow strikes the earth as an ellipse. At this eclipse its length from north to south was about 95 miles and the maximum width about 73. As we were to the south of its centre-line, the width was less. About 8000 feet below us, and at the same height above the sea, there was a solid layer of white cloud. From a height of 8000 feet, above sea-level the horizon distance is about 115 miles. Although we were at 16,000 feet, our horizon was defined by the cloud 8000 feet below us, and was therefore still at this distance, 115 miles. As this was greater than the length or breadth of the moon's shadow, the horizon during totality remained visible all round. The weather had in fact done us a good turn. It gave us the clearer atmosphere of 16,000 feet, a white floor on which to see the shadow, which the sea would not have provided, and an all round horizon that enhanced the light effects.

As we were flying north immediately before totality we saw the leading edge of the moon's shadow rush up over the north-west horizon and then sweep towards us at a speed of 1800 miles an hour across the clouds below, the most favourable surface on which to observe the shadow. There appeared to be two shadows—a lighter one first, followed by a darker. As the leading edge came over the horizon, the darkness it cast made this horizon indistinguishable. As it advanced, so the darkness spread to the north and south. A moment later, because of our height above the cloud, we saw the further edge of the shadow clear the far horizon. This once more became visible, and as totality was about to commence, with the shadow almost upon us, there was, as it were, sunset all round—a faint white or yellowish light on the horizon, immediately above this a brilliant orange glow

on the cloud with patches of red, and then a canopy of thick mauve or black (the cirrus above us), except for the area round the sun, which remained a clear deep blue. The light was sinister and unnatural and quite different from that seen on any other occasion. From gazing at the shadow, we all turned to watch the last partial phases.

TOTALITY, which began at about 1 h. 22 m. 48 sec. p.m., came with great suddenness. We were watching the ever-decreasing crescent of sunlight through dark glasses. All at once it vanished, just as if someone had switched off the light, and the corona flashed forth in all its magnificence. The suddenness of the change was breathtaking. Though it had been growing dimmer inside the aircraft for about ten minutes, at the moment the photosphere disappeared we were plunged into complete darkness; the pilot had to fumble for the switch to turn on his instrument lights. The darkness was so intense as to be almost palpable, and the lurid orange glow all round the horizon added to the most uncanny effect. Up to the moment of totality it was comfortably warm inside the plane, which was heated, without wearing any extra clothing; but, as soon as totality came on, there was a sudden and marked drop in temperature, and we all began to feel cold. I am told that this drop cannot have exceeded 3 or 4 degrees, but it felt like 20.

Though we had all read about it and knew what would occur, the contrast between even the thinnest crescent of light from the photosphere of the sun and the light from the corona was even greater than we had expected. The former required a dark-glass for comfortable viewing; the latter could be gazed at through binoculars without any shade at all. Nevertheless, the corona was brilliant; but it seemed to be giving off light without any heat. All round the sun was the bright ring of the inner corona, perhaps slightly yellow when contrasted with the pearly whiteness of the outer corona, which spread out on either side from the equatorial regions in two tapering wings to a distance of three diameters of the sun. It made a magnificent and fascinating sight. Between the position of one and two o'clock on the sun there was a huge flaming red prominence, shooting up and curling away towards the sun's north pole, large and bright enough to be seen with the

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naked eye. Contrasted with the corona, the moon, which seemed a flat disc rather than a sphere, was intensely black.

The maximum length of totality for anyone who was stationary was 155 seconds; but by flying down the centre of the track we could prolong it for a further 16. The exact moment of the end of totality was 1 h. 25 m. 31 sec. p.m.; but on comparing notes afterwards we discovered we were uncertain of the exact second at which it had begun. There had been too much to do and look at. However, we were agreed that it had lasted between 160 and 170 seconds; all too short a time. None of us saw the short coronal streamers at the poles, nor Baily's beads either at the beginning or end of the total phase. This may have been due to the unsteadiness of an aircraft, but was probably accounted for in part by the sudden drop in temperature causing condensation on the windows.

Venus was clearly visible for some minutes before totality and throughout it. She could

probably have been seen before we noticed her, had the sky been wholly clear of cloud. No stars were seen, nor was Mercury. In the vicinity of the sun, where there were many bright stars, this must have been due to the brilliance of the corona; but elsewhere it was largely due to cloud.

The end of totality was even more sudden than the beginning, and, as the first tiny crescent of the photosphere reappeared, the brilliance of ordinary sunlight was dazzling to our dark-accustomed eyes. As suddenly as the corona had gone, so too had the darkness and the orange glow on the horizon. We watched for a few moments, but it was an anticlimax after the glory of totality, and we quickly turned for home.

Stopping to refuel at Kirkwall and Newcastle as before, we reached Croydon just after 7.30 p.m. We had been away fourteen and a quarter hours, flown about 1600 miles, and witnessed a spectacle that is unforgettable and seemed almost supernatural.

Haydn's 'Military' Symphony

*Scarlet coat, and pipeclay, and pigtailed coated with grease,
They march, toy soldiers, gallant with gilt and braid,
Unwieldy musket and back-breaking pack,
And bounding gaily, furling out his nostril
As the anemone petal in the sun,
Mane curling, sweet as the hyacinth's faded flower,
The mincing charger chinks his gleaming bit,
And his young hero spurs him to curvet.*

*Now, in the music hear, sealed up for ever,
The old, forgotten shrilling of the fife,
The drum's tattoo, the hollow sounding horns
That, loaded with dread, summon the heart to war.
Then, with mob-cap askew, and honest faces
Shining with tears, the village girls run back,
Hiding a breaking heart, a bastard boy,
And turn the wheel, or bind the sheaf again.*

*The momentary break is done, the hand
Wipes off the sweat, or hides a manly tear,
Then, like a file of toy dragoons, they go.
The fife, brittle as sunlight before storms,
Plays them to war, the hollow hooves, the drums
Sound like the echo of the cannon's roar.
Minden; Quebec; Corunna; Waterloo.
But on cottage gates they lean, and wait for news in vain.*

MARGARET STANLEY-WRENCH.



Le Miroir de Glace

DAVID WILLIAMS

MAN has always secretly feared the mountains. The modern belief as to their beauty and challenge is only put on. The past peopled them with either Pontius Pilate or Zeus. This fear is still in man's mind, especially among the mountain people. It is the fear of the slipping foot, of the fingers clutching in vain for safety, of sudden storms, and of deadly cold. Moreover, the danger of the mountain is as great on the glacier as on the peak.

Jacques Moverit was a young confident guide of about thirty. His family had always lived in the Chamonix valley and he had been brought up in the tradition of guides and mountaineering. Although competent, he thought that he knew all the ways of the mountains and treated them very casually. He was familiar with the more interesting routes on the Aiguille Verte and had once survived a night spent on the top of Mont Blanc under the very worst of conditions.

In summer Chamonix presents a strange picture. Far from being the pretty little Alpine village of fifty years ago, the streets are crowded with trippers from Lyons, nuns escort orphans out for a day in the country, the shops are full of gaudy souvenirs, loudspeakers blare unending popular songs and Tyrolean

waltzes. Everything is expensive. The climbers are easily identified, not only by rope and axe but also by their bearing and wind-burnt faces. Above the town the cable-car glides up and down conveying sightseers to the highest hotel in Europe, where, after surveying the Aiguilles and the two Massifs from the comfort of a chair, they return, after a drink, once more to civilisation.

In winter the scene is very different. Snow and rain. No work for the guides. No custom for the sellers of genuine Chamonix walking-sticks. The river freezes. On some days a blanket of fog whirls through the streets. On others, after a fall of snow, the air is clear and the mountains once more briefly reveal themselves.

JACQUES was lucky enough to supplement his summer earnings by twice a week carrying food and necessities up to the Alpine Club refuge, L'Abbé, which was situated on the edge of the summer snow-line. The family that lived there were his friends. Indeed, there was an understanding between himself and the daughter, Amélie. Normally he took the railway up to the end of the timber-line, walked over the Miroir de

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Glacé, as the glacier was called, then climbed an easy path for a thousand feet, past the Chasseurs Alpains summer-post, until, in clear weather, he could see Les Grandes Jorasses, and finally reach the hut. He would return in the early afternoon to avoid crossing the glacier at night.

One morning in November he made his way to the hut. It was an unusually fine day and there had been a slight fall of snow the previous night. High up above him he could see the thin graceful needles of granite piercing the clouds, which drifted hurriedly across the sky. Nothing, he thought, could be more disarming than the conjunction of blue sky with the sun, which cast short dark shadows on the mountainside. At last he came to the hut, and after dinner he spent the time very pleasantly, alternately flirting and boasting. Before very long it was dark. The family tried to persuade him to stay the night. But no. Jacques refused. He wanted to be in Chamonix that night. He would be all right—there was a full moon.

ALL went well as Jacques climbed down to the glacier. He was preoccupied, and the memory of the warm hut and human company did not allow his imagination to play any tricks. Only after he had crossed the moraine and was on the ice itself did he feel the unutterable loneliness and desolation which surrounded him. The shadows thrown by the rocks became menacing. A light wind had sprung up and the moon, constantly hidden by fluffy black cloud, now only gave intermittent light. Tiny white columns of snow surged and eddied in the distance. Jacques had never been alone at night on the mountains. His experience on the top of Mont Blanc had been shared with another. Always there had been the reassuring touch of the taut rope with someone at the end of it to bring him back to reality if his thoughts should stray along unpleasant channels. In spite of the rational explanation which his sharp Gallic mind immediately accepted, there seemed to be a mystery about those strange shapes endlessly and restlessly moving over the gleaming ice. Soon, to add to his discomfiture, larger clouds began to pass across the moon.

The way over the Miroir de Glacé is marked by a series of poles about five metres high, so that they are clearly visible even in quite deep

snow. If these are followed, the main crevasses of the ice-fall are avoided and the side of the glacier leads after a short walk to the hotel.

As Jacques looked anxiously ahead for the next pole, the anger of the mountain seemed to increase. It grew steadily darker and, in consequence, Jacques had to go slower in order to avoid crevasses. They were singularly uninviting, these long deep gashes in the ice. He knew that if he slipped he was done for. The wind frothed the snow up round his feet, and ran moaning past him away down the valley.

He had now reached the beginning of the ice-fall and was starting to move to the side of the glacier, when faintly against the wind he heard, or thought he heard, '*A moi! A moi!*' This call for help brought him to a halt. The wind and the glacier-stream wailed and chattered together. In silence he tried to persuade himself that his senses were mistaken, but could not. Yet nothing could explain why anybody should be on the glacier at that hour. But there it was again as the wind rose shrilly. He could not be wrong about that. He was certainly on the Devil's pitchfork. If he went for help, the other might be lost for ever. If he went to him himself, he might not find him, and endanger his own life. The knowledge that there was another person near at hand gave him courage and in the moment that he made his decision to go after him he forgot the wind and the swirling white ghosts of his imagination.

JACQUES'S path to the voice seemed to lie directly in front of him, near the foot of the ice-fall. He was unable to take a direct route, but had to traverse slowly backwards and forwards along the edges of parallel crevasses. It seemed to him as he went forward that the dismal cry repeated itself. The route that he had chosen grew more difficult with every step that he took. He crossed slim bridges of ice tapering down into the blackness below. Sometimes he had to go back, setting his teeth and turning into the wind that was his constant enemy. The dark was more dreadful and he had to pick his way with his ice-axe. He did not dare to jump the crevasses. He thought as he went on his way that he was like a man walking on the crest of the waves and who must never tread the dark trough.

At last he stopped disheartened. He wondered where he was. Tired and cold, he had not heard the voice for some time—only the wind. He looked over his shoulder. Behind him in the distance stood the toppling Séracs, huge and menacing. The moon rushed out of the black column of cloud, revealing the dominating mountainside and the whispering white figures. As he looked, he froze, for at his very feet came out of the glacier the long moaning cry. He clutched his ice-axe and peered into the abyss. Even with the moon, he could see nothing. 'Hallo!' he shouted. 'Who are you down there?' The wind and the echo replied. Mystified and half-frightened, he shouted again, with the same answer. The moon with a clear face showed the silver edge of the crevasse and the shining sloping sides. Then once more he heard the cry, mournfully cutting the wind.

That was quite enough for Jacques. Discretion discarded, he turned and ran from the crevasse. Usually surefooted though he was, the ice now stiffened under his feet as he started to slide sideways. Shaking with terror, he began an involuntary glissade, both hands clutching at the smooth surface to try to slow his descent. Below him he heard his ice-axe fall, and once more the terrifying cry.

When he came to a stop, he found himself wedged into an ice-crack at the bottom of the crevasse. His teeth were chattering with fear and cold. But his guide's instinct told him that he must do something fast. But what? Physically, he was trapped. His ice-axe had gone, but even it would hardly have proved effective. Over and above all was the terrible fear of the demon that he was now certain haunted this particular crevasse. In desperation he wriggled sideways, but could find no foothold. Above, black clouds streamed across the sky in never-ending succession. He moved further to the right. He balanced precariously for a second, but there were no holds, and once more he slipped into the glacier. The shock of this fall stunned him, and he lay still for several minutes before taking new stock of his position.

HAD Jacques been familiar with Dante, he might have imagined himself within the bounds of Hades. He was in a cavern of shimmering ice. High above his head the wind still moaned. Icicles gleamed with a hidden reflected light. At the end of this ice-chamber there was a dark entrance. If Jacques had been frightened before, now he was paralysed with fear. Where am I? he wondered. Am I dead or alive? As he murmured an 'Ave' to himself, the whisper seemed to run round the chamber and repeat itself ten times over. Once more he heard the moaning.

He got up, and what perhaps saved his reason was the fact that his hand was bleeding. This made him resentful and persuaded him that he was still alive, and partially drove away his fear. He saw his ice-axe and picked it up. He had a weapon now, and if any human being was responsible for this, let whoever it was look to it. He examined the chamber and found that there was only one exit apart from the way that he had come in. Slowly he walked to the dark entrance, summoning up his courage. Then he rushed in, whirling his ice-axe. He must have run fifty metres before he came to a halt. He was now in another chamber tunnelled out of the ice and as spacious as the other. He saw a notice hanging on the wall. On it was written: '*Cavernes du Mirior de Glace—Défense de cracher.*' As his eyes grew accustomed to the faint light, he picked out a giant arm-chair made of ice, a table and a lamp. His heart missed a beat as he perceived something moving in the shadows. He gripped his axe. There was a scuffling of paws, and he gradually made out the shape of a dog fawning and wagging its tail in its delight.

Relief is a strange contrast to fear. Jacques left the caves singing at the top of his voice. The dog followed, apparently none the worse for its adventure. He tramped out of the passages cut from the ice by his enterprising countrymen to make money out of the Chamonix trippers, out into the moonlight. As he left the glacier for the Hotel des Guides, the sky was clear again and the wind had died down.

Riding for a Living

A Modern Career for the Outdoor Girl

J. M. BRERETON

SINCE the war, riding has become immensely popular as a career for the modern girl, who has firmly established her reputation not only in the international showing but also in the humbler but none the less essential spheres of teaching and stable management. The Principal of one of Britain's best-known riding-schools recently declared: 'One thing I can say for certain . . . the great value of young women as teachers, as trainers of horses, and as workers in stables, is undeniable. They are thorough, they are patient, and they are quick and tidy. To-day there is a great demand for their services, and I am of the opinion that it will increase as they continue to prove themselves.'

What, then, does the riding business offer to the would-be professional horsewoman? Briefly and bluntly—strenuous labour, long hours, few holidays, and small wages. The horse demands unremitting attention, and the five-day week is unheard of in the stableyard. Very often the typewriter will bring greater material reward for much less effort. Let it be emphasised at once that there are no fortunes to be made in the saddle. Unless a girl possesses an innate love of animals and an infinite capacity for hard physical work she would be well advised to choose some less exacting occupation.

Of course, there is another side to the picture. 'The best tonic for the inside of a man is the outside of a horse,' runs an old adage. Riding is freely acknowledged as one of the healthiest forms of exercise yet devised. A life with horses can often confer privileges beyond the reach of the amateur rider—free hunting, show-jumping, contact with the finest horsemen in the country, and, not least, the inestimable satisfaction that comes with the

mastery of one of the noblest and most subtle arts, equitation.

BROADLY speaking, there are two forms of employment open to the horse-loving girl—a job as assistant or instructress in a riding-school and work in private stables as a groom. The former will offer better prospects; the latter may bring in more money for fewer qualifications and less effort.

If a girl decides to become a riding instructress, and eventually, perhaps, to run her own establishment, she must swallow whatever pride she may possess and start at the bottom. Riding, like any other skilled profession, demands a long and arduous apprenticeship: even wealthy parents cannot buy short-cuts, for such do not exist. Experience and professional qualification are essential. Nowadays competition is fierce, and very few proprietors of reputable establishments would bother to interview an applicant for a staff post unless she could produce certain of the certificates or diplomas of the leading national authority in equitation matters—the British Horse Society. This Society conducts graded examinations in equitation and horsemaster-ship at various centres throughout the country, and no would-be instructress can get far without passing at least two of them. Full details and syllabuses are obtainable from the Secretary of the B.H.S., at 66 Sloane Street, London, S.W. 1. The following may be taken as a summary:

- (1) *Preliminary Instructor's Certificate.*—Candidates, not younger than 17½ years, are examined in: Elementary equitation (mounting and dismounting; simple turns at all paces);

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elementary stable management and horsemastership; minor ailments of the horse; general knowledge.

- (II) *Instructor's Certificate*.—For candidates over 18½ years of age, this includes, in addition to more advanced equitation and horsemastership, practical and theoretical tests in: Taking a class in equitation; giving a set lesson and demonstrating a particular exercise; training the young horse; advanced general knowledge, such as organisation and running of a stable-yard, types of forage and their values, how to clip a horse and plait mane and tail.

Before taking the Instructor's examination, which confers the right to the letters B.H.S.I., candidates must show proof of at least one year's practical experience as assistant instructor in a riding-school.

- (III) *Fellowship of the British Horse Society*.—This is open only to those who are over 20 years of age and who have had at least two years' experience as qualified instructors. The syllabus is a searching one and requires very thorough preparation and study. It covers advanced equitation (including dressage work); teaching classes of beginners and experienced riders; jumping; advanced schooling of the young horse; fitting and care of saddlery; shoeing, and veterinary knowledge.

The letters F.B.H.S., which successful candidates are entitled to use, are rightly regarded as an honoured distinction.

NO matter what her standard of riding, the aspirant to instructorship is strongly urged to spend at least six months in a reputable school before finally deciding on the business as a full-time job. Thereby she will not only find that she still has much to learn, but, what is more important, she will also discover whether her initial enthusiasm can survive the rigours of the life.

The choice of a suitable establishment needs very careful consideration. It must be confessed that not every 'School of Equitation' or 'Riding Academy' really warrants such a title: many of them are little more than hack-

ing or livery stables, whose staff are scarcely competent to give anything beyond the most elementary tuition. On the other hand, there are, of course, a vast number of establishments with impeccable reputations: some of them may be found advertising regularly in *Horse and Hound*, *Riding*, *Pony*, and similar journals. It would be invidious to give names: if the novice has no knowledgeable acquaintances to whom she can turn for advice, the best that she can do is to make a selection from the advertisement columns and assess the status of each by personal visits.

Most of the better-class schools accept residential pupils, and the serious student would be well-advised to take a residential course rather than a series of lessons as an out-pupil. By living on the job she will learn more in six months than in a year as an 'occasional.'

Fees for riding instruction vary considerably, depending on many factors, such as the locality and status of the school, the type of instruction required, and the length of the course. The latter will be largely regulated by the pupil's ability and experience. A keen novice, with good tuition, should be able to pass the Preliminary Instructor's examination within a year. Some idea of fees may be gained from the following examples, obtained from current brochures of establishments in (I) Sussex; (II) Somerset; (III) Buckinghamshire.

(I)

Comprehensive Residential Course (12 weeks): £7, 7s. per week.

(II)

- (a) *Horsemastership Course*, for B.H.S. Preliminary Certificate: £10, 10s. per week.
(b) *Advanced Refresher Course*: £11, 11s. to £14, 14s. per week, according to season.

(III)

- (a) *Residential Course* for B.H.S. examination: £6, 6s. per week.
(b) *Non-residential*: £3, 3s. per week.

While on the subject of fees, a note of caution must be sounded. Occasionally advertisements appear offering vacancies for 'working pupils.' The reputable school will, of course, honour any such arrangement and provide a fair return for services; but there will always be the few who are primarily out

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to obtain unpaid labour and have no scruples about forgetting the instruction side of the bargain.

THE Preliminary certificate duly obtained, the next step is a post as assistant instructress. Here wages will be round about £2, 10s. a week, all found, or from £4 to £4, 10s. without board and lodging. The assistant's duties will usually comprise the supervision of elementary classes in riding and stable management, escorting novice clients out hacking, and the normal share of stable routine—grooming, mucking out, and tack cleaning. In addition, she may be responsible for looking after two or more school or livery horses.

As a rough guide, the following may be quoted as a typical day's programme in a riding-stables:

| | |
|-------------------|------------------------------|
| 7 a.m.: | Muck out, water, and feed. |
| 9.30-11 a.m.: | Equitation classes. |
| 11.30-12.30 p.m.: | Stables (grooming, etc.). |
| 2-3 p.m.: | Lectures, demonstrations. |
| 3-4 p.m.: | Equitation classes. |
| 4-5 p.m.: | Evening stables. |
| 5-6 p.m.: | Tack cleaning. |
| 6-6.30 p.m.: | Hay up, bed down, and water. |

While this can be taken as normal routine, there will be many variations. In the cub-hunting season, for instance, horses may have to be fed, groomed, and saddled up by 4.30 a.m., ready for an early meet of hounds. Similarly, in the summer, horses may often be returning at late hours from distant shows.

Two years' experience as assistant will qualify the girl for the Instructor's examination, on passing which she may expect to gain a better position, perhaps as chief instructress. Such posts are not easy to secure, owing to competition; they usually come through personal contacts rather than by advertisement.

A chief instructress may be entirely responsible for a yard of 20 or more horses, the coaching of novices and experienced riders for the B.H.S. examinations, and the breaking and schooling of young horses. In a well-to-do establishment her salary might run to £6 per

week all found; often it will be considerably lower. Many riding-school jobs offer opportunities for specialising in some particular sphere, such as show-jumping or dressage, and the staff girl who is exceptionally talented may well make a name for herself without the large financial resources necessary to the private rider.

SO much for the riding-school business. To-day many hunting and showing folk who can afford to pay others to look after their horses prefer the girl-groom. There is no doubt that such a job can be more congenial, less arduous, and can bring in more money than a staff post. Everything, of course, is dependent on the employer and the type of stable selected. A girl-groom may have no more than one hunter to look after; on the other hand, she may be asked to do three animals and also teach a couple of children to ride. Often she will live as one of the household, sharing, perhaps, in its social life and enjoying free hunting or showing. The status of the modern girl-groom is far-removed from that of the traditional semi-literate character with a straw in his mouth. It is almost impossible to quote typical salaries, since they vary widely in different localities and are generally a matter of mutual agreement. This type of work seldom calls for official qualifications: proved ability to sit a horse reasonably well and a sound practical knowledge of stable management are normally all that are required.

The main drawback to private employment is the lack of prospects. If a girl is content to enjoy a pleasant and not too strenuous life with horses, a groom's job will suit her well. If she has higher ambitions, she must be prepared to seek their fulfilment in the harder world of the riding school.

No doubt this picture of the riding business may prove discouraging to many with visions of pleasant hours in the saddle, easy money, and perhaps international fame in the show-jumping ring. If it deters a few of the faint-hearted, so much the better. In few other careers are character, perseverance, patience, and tact of such paramount importance. Without these one may, indeed, achieve riding—but horsemanship, never.

Russian Blue

Lore of the Royal Air Force

HADRIAN CHESTER-WALL

THE Royal Air Force—not the 'Raff,' please—was born in 1918 by the merging of the Royal Naval Air Service and the Royal Flying Corps, and it is only natural that the Junior Service, as it is affectionately called, should have taken over from the Navy and the Army the best traditions of each and should have moulded them to its own use.

Thus we find that the custom of prayers and colour-hoisting, which takes place every morning before starting work, was adopted from the Navy. From an army, however, the R.A.F. received its uniform! It is, indeed, to the Russian October Revolution of 1918 that the R.A.F. owes its distinctive slate-blue uniform. When the Revolution broke out, vast quantities of blue uniform ordered by the Tsarist regime for its army were left on the hands of the British manufacturers. The fact that the Government bought up the surplus stocks of slate-blue material and used it for the newly-formed R.A.F. must have saved many firms from bankruptcy and the workers from unemployment. In those days the uniform was very different from that worn now, for high choker-necks, double-breasted jackets, riding-breeches and puttees were the order of the day.

In the badge of the new service the eagle is the basic element. This matter of the eagle has caused quite a controversy within the R.A.F., and opinion is still divided on the subject. Some misguided persons continue to hold that the bird is the albatross, in spite of clear and official documentary evidence to the contrary. Thus, in a minute of an Air Council meeting in 1918 dealing with the crest, we have: 'In front of a circle, inscribed with the motto, *Per ardua ad astra*, and ensigned with the Imperial Crown, an eagle, volant affrontee, the head lowered and to the

sinister.' This was submitted to the College of Arms on 23rd January 1923, after receiving King George V's approval, and was registered on 26th January the same year.

From the formation of the Junior Service in 1918 the women members have worn the same badge and buttons as the men, being the only women's service to have this unique privilege. The W.R.N.S. wear similar badges to the Royal Navy, only in blue, and the A.T.S. and W.R.A.C., and their predecessors, as well as the Naval and Army Nursing Sisters, have their own distinctive badges.

Mention has already been made of the motto '*Per ardua ad astra*,' which means 'Through struggles and difficulties to the stars.' It is an appropriate motto for the R.A.F., although originally it belongs to the Mulvany family, who hail from Ireland, and the story of how the R.A.F. came to adopt it is interesting. In France, at the beginning of the First World War, Colonel (later Major-General Sir) Frederick Sykes was Commanding Officer of the Royal Flying Corps. One evening, in mess, he suggested to his officers that they should try to think up an appropriate motto for the Corps. Much thought was given to this, and it was a young subaltern, J. S. Yule, who eventually hit upon '*Per ardua ad astra*.' The suggested motto was forwarded in the usual way to higher authority and, after much debating, it was finally approved by King George V, and adopted. The motto occurs in the first chapter of Sir Rider Haggard's book *The People of the Mist*, which was at the time in question popular in the R.F.C. mess and was a particular favourite of Yule's.

TO the airman shop is so very interesting and absorbing that it is still talked in

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R.A.F. messes over a jar, at table or in the anteroom, although in Army messes it is forbidden.

Music, as in the other fighting services, has an important place. Sir Walford Davies, sometime Organising Director of Music of the R.A.F. in its early days, composed the first part of the march-past, and his successor, Sir George Dyson, composed the part known as 'The Trio,' which, later, Flight-Lieutenant Amers, first Director of Music of the Central Band, arranged as the official march-past. It is indeed a stirring march, equal to that of 'The British Grenadiers.' In passing, it might be said that the Royal Air Force Association has its own distinctive march-past, which was written by the present Director of Music of the R.A.F., Wing-Commander A. E. Sims, O.B.E.

The lovely, but little-known, hymn, 'For those in the air,' has never been recorded, although, occasionally, broadcast. The writer of the lines was one Kermode, but unfortunately the name of the composer of the music has now been lost 'in the mists of time,' and no doubt both poet and composer must ere this have left the service, if not 'flown west!'

The pipe band of the Aircraft Apprentice School at Halton has a goat for a mascot. The creature is Aircraft Apprentice Lewis III. He has a good pedigree, his sire being from the Royal Windsor herd, and he was presented by Mrs Riley of Mill House, Aylesbury. He is the third goat mascot, and the name Lewis represents London, England, Wales, Ireland, and Scotland.

'Storm' is a pure-white R.A.F. Police dog, an Alsatian, which was presented by Mrs S. E. Gornall of Birkenhead in 1947. He is an instructor dog at the R.A.F. Police Training School, Netheravon, and is used to train his fellow Police dogs, being fully trained himself, in the various duties expected of such animals. These dogs have to guard R.A.F. establishments all over the world.

THE history of how the roundel came into existence is interesting, particularly as in these days the well-known circular marking is frequently to be seen when modern jet-aircraft fly over our homes and cities.

In the early days of aviation no national markings were used. In war, however, it was discovered that friend and foe alike fired at unmarked aircraft. The British, therefore,

adopted the Union Jack, in shield form, as their symbol. This proved to be satisfactory only as long as aircraft flew at low altitudes, but, as artillery height-range increased, they were forced to fly higher. At heights, the only part of the Union Jack visible on our aircraft, from the ground, was the red cross, and this could easily be mistaken for the German Maltese cross. In the early days of the war this resulted in many of our aircraft being shot down by our own guns, and so in October 1914 it was decided to adopt the familiar three circles of red, white, and blue, which, although similar, was the reverse of the French and has remained ever since the identification mark of the R.A.F.

R. A.F. slang is familiar to many. Pilots refer to officers who are employed on ground jobs, and who are not pilots themselves, as 'wingless wonders,' whereas 'penguins' are pilots who are too old to fly and who have been employed in various administrative duties. 'Sky-pilots' are chaplains; whilst the 'station-master' is the name given to the Station Commander. 'Kites' are aeroplanes, although, during the late war, a famous Churchillian minute was circulated amongst the various services to the effect that from then on the word 'aircraft' was to replace any previous word for 'plane.'

At the end of the war, as a recognition of its outstanding service, colours were awarded to the R.A.F. by King George VI, himself an airman, and standards to certain squadrons. The standards were awarded to operational squadrons which had distinguished themselves by their outstanding records in war or which had been in existence over twenty-five years. These colours and standards are highly prized by the recipients, who carry them on parade as proudly as the Guards.

The architect of the modern Air Force, the 81-year-old Marshal of the Royal Air Force, the Viscount Trenchard, is still, happily, with us. He can be justly proud of his 'baby,' which has reached the years of discretion and which, in turn, looks on its 'father' with gratitude and admiration. The service he founded continues to go from strength to strength, and its customs and traditions, in so far as they have emerged, are maintained and guarded with a jealousy and pride second to none.



A Housemaster's Case-Book

V.—Vincent Hammond-King

EVERETT BARNES

So quick bright things come to confusion.
Shakespeare.

IT would be generally accepted, first, that a housemaster should not have favourites; and second, that a human being who has no favourites is only half-human. Herein lies the dilemma which faces all schoolmasters who set a true value on humanity. In the face of it, we are driven for the most part to a pallid compromise—that the schoolmaster may show openly approval or disapproval, but not affection or dislike.

Memories of my own schooldays and of a housemaster alleged to go in strongly for favourites have given me an ever-present warning. The 'Old Man's' pets seemed in the eyes of intolerant youth to be so strangely chosen—owlish little scholars, or oily sycophants, or odd slug-like creatures living introvert lives in fusty studies. I have always had a fear that the boys I liked most would appear equally subhuman to those I liked least; and so I have made every endeavour to keep my preferences and aversions private.

Nevertheless, there have been a few boys in my House to whom I have become devotedly attached. David Robbins was one

of them, whose story I have already told. Another was Vincent Hammond-King.

He was the fifth and youngest son of a retired Colonel, a widower, rigid, despotic, and charming. It seemed to be an entirely masculine family, very closely knit, and with a strong tradition deriving from the father, to whom all the sons were devoted. The brothers were very fond of their 'baby,' Vincent, but they had brought him up the hard way and had trained him to keep step. When he first came to Melbury he was a long, ungainly youth, with large feet and a quick temper, which often got him into trouble. However, he did not suffer the fate of many quick-tempered boys, whose life is made a misery by constant provocation; he was much too amiable of disposition, too unexpected in speech and behaviour—and, incidentally, too strong in the arm—to fill the role of a lower school butt. The other boys in Day Room regarded him in the main with the liking and respect due to someone cheerful, slightly eccentric, and considerably more grown-up than themselves.

In the snatches of conversation one heard about the House, H.K. never seemed to be engaged in the ordinary small-talk of small

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boys. He might be retailing some wild fantasy which his hearers did not know whether to take seriously or not, so intense was his manner, or talking down another boy by declaiming poetry at him—poetry of the prep school repertoire, like 'The Revenge' or 'How they Brought the Good News.'

From the first I found him refreshingly different from the common run. At the stage when other boys had not lost the uninhibited garrulity of their prep schools he was inclined to be shy, making laboured conversation in an adult style, interspersed with occasional naïve remarks which reduced other small boys to shocked silence or giggling side-glances. For example, after surveying my bookshelves while we were waiting for tea: 'My father says you can always tell a man by his books'; or, with an eye on my son, aged five: 'I don't think a boy should go to a school where his father's a master, do you, sir?' In one conversational pause, with reference to nothing that had gone before, he asked: 'Would you have liked to have Nelson in your House, sir?'—a frightening thought, indeed! I discovered afterwards that Nelson was his greatest hero.

As he grew older, he lost his shyness—at about the age when other boys are developing it—and began to treat me much as a boy treats a friend of his parents whom he likes—an experience I have rarely had except with a few boys in their last year at school. The absence of the great barrier of reserve which normally separates masters from boys during their middle period—however much the more socially adept boys may make it appear not to be there—was wholly engaging; I could feel as natural and relaxed in his company as with my own nephews and young cousins for whom I had no official responsibility.

H.K. was considerably above the average intellectually, with a leaning towards history and literature. At that period the æsthetic climate at most public-schools was very different from what it has since become; and H.K.'s devotion to poetry, or at least to certain poems, was regarded by his light-hearted friends as a streak of amiable madness—a view which he fostered by his untimely declamations of the poems he fancied at the moment. 'The Ancient Mariner' and 'Kubla Khan' had their day, and later on Tennyson's 'Maud.' I saw him once accost another boy with a dramatic rendering of the stanza beginning 'Dead, long dead':

*Only a yard beneath the street,
And the hoofs of the horses beat, beat,
The hoofs of the horses beat,
Beat into my scalp and my brain.*

The reluctant and protesting auditor was at last put to flight, with H.K. hot in pursuit, mouthing in lurid tones:

*And then to hear a dead man chatter
Is enough to drive one mad.*

Later he discovered Wordsworth, and 'Intimations of Immortality' used to echo along the study passage.

I believe the reason why H.K. was rarely serious with his friends, and very often mock-serious—alike in his wild stories and his declamations—was that he was compensating himself for a lack of real seriousness in a rather frivolous circle. His friends certainly did not understand him, but they accepted him, with protests, as a cheerful eccentric who generally made one laugh. Moreover, if you annoyed him, he would hit you extremely hard, but in such a playful way that you could not show how much it hurt. This hard hitting was also in evidence on the cricket field. In spite of his loose and ungainly build, he had a lovely style; if he had been content to watch the ball occasionally, he might have made a fine batsman, instead of the Second XI player which he became.

WHEN H.K. was something over 17 his progress took an unexpected and disturbing turn. He became intensely unpopular, not only in the House, but also in the school as a whole. To this day I don't really know the reason. But the fact was obvious in the daily life of the House, and several masters who took him in form asked me: 'What has H.K. been up to, to get himself so disliked?' I couldn't tell them. When I came to allocate studies, I found that H.K. had to have one to himself—though he was not yet entitled to it—because no one would share with him except one Sixth Former who was not required to share. From a window I once saw him go up to two boys with whom I knew he had been friendly, and both completely ignored his arrival. H.K. went very pale, and I saw he was within a touch of hitting out; but he collected himself and walked away.

Unpopularity can spread very rapidly, and

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quite irrationally, in the school herd. Some boys will cut their former friends merely because they lack the moral courage to stand by them in adversity. But there is normally some basic cause; the victim may be just unlikeable, or he may be supposed to have done something which is not approved—generally informing on another boy. I had some uneasy doubts whether my liking for H.K. might not be at the back of it; but on reflection I could not believe that it had become obvious. I had seen no more of him than of many other boys, and I had always been at pains to treat him in general company like anyone else.

I took occasion for some soundings when he came to have an order signed. 'How are things going with you, H.K.?'

'Very nicely, thank you, sir.'

'Are you sure everything's all right?'

'As far as I'm concerned they are, sir.'

But they so obviously weren't. The strain necessary to keep up the façade was beginning to show. H.K. was hating life—as who wouldn't in those circumstances? But he wasn't going to talk to me about it.

My House Captain at this time, a boy called Alec Bannerman, was one with whom I found it difficult to get on intimate terms. He was outstanding in intellect and authority, but of a frigid disposition; and I always felt that he would much prefer to run the House without my help.

However, I broached the subject when he came in one night before going to bed. 'What's the matter with Hammond-King these days?'

'How do you mean, sir?'

'He seems to be very unpopular.'

'Some boys are like that, sir.'

'He used to get on with people well enough.'

'Perhaps he's altered,' said Bannerman. 'I don't think he used to be quite so cantankerous as he is now. He flies off the handle at the slightest thing.' And then he changed the subject. He hadn't thrown much light on the matter. H.K.'s increased cantankerousness was certainly the effect and not the cause of the present situation.

H. K. had started specialising in history after taking his School Certificate. It was decided that he should try for a scholarship at Oxford, though he had little chance

of success. I was responsible for the history scholarship candidates, and I used to get some of them to come on a reading-party in the Easter holidays, generally in the Lake District. I had enlisted three boys from other Houses, and I wanted to add H.K. to the number; but it would be necessary to tread delicately.

I had the three boys to tea to discuss plans. Their names were Hansworth, Ebling, and Bryson. 'I rather want to get Hammond-King to come along too,' I said. 'It would do him a lot of good.'

Covert side-glances were exchanged, but no one made any comment. They all worked with H.K. and knew him well.

'Will that be all right with you three?'

Hansworth was a School Monitor and felt it incumbent on him to reply. 'I suppose it would, sir, if you want him.'

I wondered if there was any special significance in the last four words, but I did not take them up. 'We must have a congenial party,' I said. No one said anything further, so I added, 'Well, talk it over when you have gone; and Hansworth can tell me later what you think about it.'

The next day Hansworth came to me and said: 'We'd rather go on the party without Hammond-King, sir, but if you think he ought to come we don't want to be difficult and keep him out of it.'

'That's a very nice way to look at it,' I said. Hansworth was an extremely sound boy and his influence was plain in this decision. 'But tell me, while we're on the subject, what have you against Hammond-King?'

'We've nothing against him personally,' he replied.

'What on earth does that mean? You can't dislike someone impersonally.'

'We don't exactly dislike him. But he's not very popular, you know, sir.'

Give a dog a bad name . . . ! And Hansworth was sensible, as school-boys go.

H.K. at first refused firmly to come on the reading-party. It was only when I put it to him as a matter of duty to his family and himself—and me—that he reluctantly gave way.

WE spent a week at a cottage in Wasdale Head where I had often stayed before. The programme was two or three hours of

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reading in the morning, then out on the fells till dusk, and more reading after supper. For the first day or two the party was a little strained. H.K. was quiet and detached, and only Hansworth and I made any effort to bring him into things. When we were out walking, the party tended to fall into two groups, with Ebling and Bryson in one and H.K. and myself in the other, and Hansworth dividing his company impartially between us. H.K. had never been in the Lake District before—or in any other mountains—and was enthralled from his first sight of it.

We were unlucky in the weather. There was a fair amount of snow still on the heights and much low cloud. Towards the end of the week we had a day when the tops were clear and we decided to go for Scafell Pike, taking the Piers Gill route. Starting late as usual, we had our sandwiches halfway up in a bitterly cold wind, keeping some food and coffee to fortify us at the top. We reached it at about 3 o'clock and, after a perfunctory admiration of the view, huddled behind the cairn out of the wind.

'What about getting down to a warmer clime before we eat?' Hansworth suggested.

The proposal was carried with acclamation, and we started down to Mickledore, the great cleft which divides Scafell Pike from Scafell. I must confess to an innate weakness for peak-bagging; I never like to be close to a summit without going to it, and it was some years since I had been on the top of Scafell. When we got to Mickledore I told the others I would go up to the summit and come down by Lord's Rake. 'You go down the scree and find a place out of the wind somewhere near the bottom of Lord's Rake, where we can finish the food. Don't hang about for me if I'm not there when you want to go home.'

Hansworth had been here before and knew Lord's Rake, though no one could well miss that scree-filled gash running up through the Scafell crags. H.K. wanted to come with me, but I discouraged that. I saw the party started down the scree, then crossed Mickledore and made my way up the massive stairway of Broad Stand.

By the time I had covered the few hundred yards to the Scafell cairn the cloud had come down again; and when I started back towards the crags visibility was only twenty or thirty yards. Not unnaturally, I missed the top of Lord's Rake. I turned left along the edge of

the crags and soon discovered that I was going in the wrong direction. Returning on my tracks, I eventually came on it, only to find that it was full of hard snow and obviously should not be negotiated without an ice-axe. There was nothing for it but to go down the west side of Scafell, skirt the base of the crags, and toil up again to the foot of Lord's Rake. I was not anxious for the boys, as they could get down to Wasdale without any difficulty however thick the weather; but it was getting dark and I did not want to keep them waiting for me in that cold.

Fortunately I soon got down below the cloud, or I should have had difficulty in finding the bottom of Lord's Rake. When I got there it was well over an hour since I had left the party and there was no one to be seen. I supposed they had done the obvious thing and gone home. However, to make sure, I shouted their names. An answering shout came from high up in the misty recesses of Lord's Rake.

'Who's up there?' I called.

'It's me—H.K.'

'Well, come on down.'

The snow at the bottom was soft enough for kicking steps; probably only the topmost section, which was exposed to the wind, was frozen hard. I went up by H.K.'s steps to meet him. He was not altogether happy coming down; a steep slope of snow can be alarming to those not used to it, and even without the snow, Lord's Rake half under cloud in a fading light, with a bitter wind cutting through it, is a pretty horrid spot.

When we got below the snow I said: 'The others have gone home, I suppose.'

'Yes. You said not to hang about.'

'Why didn't you go with them?' An unnecessary question, to which I knew the answer.

'When the cloud came down we thought someone had better wait about till you arrived.'

'We thought?'

'Well, I did.'

I explained what had happened to me. I didn't ask H.K. why he was halfway up Lord's Rake, and I didn't thank him. There seemed to be no need.

H.K. had never been on a mountain, even in summer, before that week. But it needed no mountaineering wisdom to know that anyone inexperienced going up into the clouds on Scafell in the falling darkness of

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such a night had a pretty good chance of not coming down again.

For complex reasons this incident did nothing to make our party more homogeneous.

AT the end of the following summer term I recommended that H.K., who was already a House Monitor, should be made a School Monitor.

'I understand he's very unpopular in the school,' the Head said. 'Do you know why?'

'No. But I don't think that should stand in the way. It might do him terrible harm to be passed over. Besides, I count on having him as my House Captain in the Easter term when Bannerman will have left.' The Head agreed to the appointment.

The making of School Monitors at Melbury takes place on the second night of the term. The school packs into the Assembly Hall and the Monitors-elect proceed in turn to the platform, where the Head goes through the short ceremony of initiation. At the end of it the Monitor bows to him before returning to his place. As each boy goes up and as he returns the school applaud loudly, stamping their feet as well as clapping if the Monitor is a special hero.

The ceremony that autumn term was unique in my long experience of Melbury. The first three Monitors were applauded in the traditional style. Then came H.K., and he went up to the platform in dead silence. It was the most electric silence I have ever known. H.K. was very pale, and the Head stumbled through the Latin formula as if he had never said it before. After making his bow to him, H.K. turned and bowed gravely to the school before going back to his seat, still in the same tense quiet.

Was it an ironic rebuke, or a gesture of defiance? I don't know, nor did my colleagues; but we felt a kind of nervous tremor in the school as they watched that calm and dignified riposte.

Of course the wretched demonstration was organised. Very few of the boys present could have known anything whatever about H.K. personally. That night I faced Alec Bannerman with some direct questions. 'What is behind all this, Alec? You must know.'

'I know nothing whatever about the demonstration, sir. It took me completely by surprise.'

'But why is there all this feeling about Hammond-King?'

'I think it's just personal dislike,' he said.

'That can't explain it. Such unanimous disapproval must be based on something he has done—or is supposed to have done.'

'Well, I don't know if it is true, but he is supposed to have reported — to Mr Dobson,' and he named a boy in Dobson's House who had been expelled for a most squalid affair with a woman in Melbury town.

So that was it. I still don't know if the charge was true—I have never tried to find out. But I do know that there are some occasions when the schoolboy's code ceases to apply; and every decent boy recognises these occasions when they come along.

DURING that term I looked forward eagerly to the time when H.K. would be my House Captain instead of the frigid Bannerman. Towards the end of the term I had a letter from Colonel Hammond-King asking if Vincent could have leave to return late to Melbury after he had finished his scholarship exam at Oxford; his eldest brother, a civilian air-pilot, was shortly to start on a hazardous long-distance flight and was having a farewell dinner with two of the brothers who were undergraduates at Oxford. They had timed the dinner to coincide with the end of Vincent's exam so that he could attend. He would be brought back all the way to Melbury in the pilot's car.

The Head at this moment was ill in bed, in rather an ambiguous position, since he had delegated routine affairs to the Second Master, Bridger, but expected to be consulted on all matters of policy. I was taking no responsibility in a matter of this kind, so I visited the Head to refer it to him. I knew from past experience that the Colonel would get what he wanted—if in no other way, by coming down to Melbury and staying there until he had imposed his will on the recalcitrant party. We decided to take the line of least resistance and give leave on the understanding that H.K. was in the House not later than 11 p.m.

On the night in question I told Bannerman to leave the House door open and go to bed. I knew that H.K. would certainly call in to report his return and show me his scholarship papers. At 11.15, as he had not reported, I went up to his dormitory to make sure that

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he had not come in. Returning to my study, I waited restlessly a little longer and then looked out of the front-door for any sign of his arrival. There was a car in the street opposite the boys' entrance. I went out to investigate, and as I did so the car drove off. Then I saw there was a light in H.K.'s dormitory.

I went in by the boys' entrance, up the stairs and along the dormitory passage, where everything seemed quiet and normal. The dormitory was in darkness when I opened the door. I stood there for a moment, conscious of a strange stillness in the room, as if its occupants were not asleep but dead. Then I switched on the light. Instead of the rows of sleeping forms which I expected, the dormitory looked as if it had been suddenly frozen while in normal activity. Bannerman was standing close to the door in his dressing-gown. Several boys were sitting on their beds in pyjamas; others were leaning up on their elbows in bed. H.K.'s bed seemed to be the focus of their attention. He was lying there apparently asleep. I went over to him. Then something caught my eye and I pulled down the sheet. He was dressed in his ordinary clothes. From his appearance and his breathing, there was no doubt whatever that he was dead-drunk.

In the shock of this discovery I could not think what to do—whether to say something to the boys in the dormitory, or have H.K. undressed and put to bed properly, or take Bannerman away and question him. In pure default of any plan, I said: 'Get back to bed at once, all of you,' and walked out.

I was conscious of a sudden wave of gratitude to Alec Bannerman for trying to shield H.K. from me by putting out the light.

IT became my task next day to tell H.K. he was sacked.

A good many things happened first. When I told the Head, he was furious, and his temperature soared. His anger was directed to the proper quarter—the brothers and not H.K. himself. But, he said, that made no difference. The whole school would know about it by now—and probably most of Melbury town as well; they must not be allowed to think that such an offence was treated leniently. The fact that H.K. was a Monitor made the offence far worse. I put in a half-hearted plea for demotion, but I knew that the Head's decision was inevitable

in the interests of the school; and I was also haunted by the knowledge that anything less than expulsion would be regarded as preferential treatment to my favourite. But I knew also that I was conniving at a frightful injustice to one of my greatest friends, who not so long ago had risked his life for me.

Before I had even seen H.K. again, the eldest brother turned up. Knowing the family as I did, I expected him; he would not deposit his brother in bed drunk, and then run away leaving him to face the music. He came back ostensibly to apologise for bringing his brother in late; really to find out if by any stroke of luck his condition had escaped the notice of authority. When I told him how things were he was quite desperate with grief and remorse. He swore that it was not Vincent's fault, and that it was he himself who ought to be punished for not looking after him properly. It was, as I had guessed, a case of a weak head and drinks unwisely mixed. The pilot dashed away precipitately without seeing Vincent, and I knew what to expect next. I took the first opportunity of reporting this visit to the Head—doubtless sending his temperature up a few more degrees thereby—largely as an excuse to delay my interview with H.K.

While I was with the Head, Colonel Hammond-King rang through from London, and I was deputed to deal with him. He told me that he was coming down to Melbury and on no account was any action to be taken by the Head or me till he had seen us. I was not given any opportunity of assenting to this arrangement or the reverse.

By the time the Colonel came down that afternoon the Head had been forbidden by the doctor to see anyone who would mention the name Hammond-King, so I had to receive the assault. I still hadn't so much as seen Vincent. The Colonel's old-world courtesy and charm was now somewhat warped by fury with his three elder sons, but he was no less determined than usual to have his way. I agreed entirely with all his arguments. At the end of an hour I said that the decision did not rest with me, and I handed him over to Bridger, the Second Master, knowing full well that the result would be a compromise, if not a capitulation.

The distracted Bridger, I learnt later, agreed that H.K. should go to the San to be 'under medical observation,' and should be suspended from his monitorial office until such time as

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the Head could consider his case further.

But in all this we reckoned without H.K. He resigned his Monitorship by letter to the Head—a thing no Monitor had ever done before in human memory—and next day packed up his things and left. It still remains a debatable legal point whether H.K. was expelled from Melbury or ran away.

He told me of his decision, and I did nothing to prevent it. He was ashamed of himself beyond all true deserving; and, while he could face unpopularity in his citadel of integrity, he could not do so after losing his self-respect.

Funnily enough, if he had stayed, I am convinced that he had broken the evil spell and would no longer have been unpopular. The House at least was genuinely grieved at his departure.

So passed away Vincent Hammond-King. He failed to get a scholarship and went up to Oxford as a commoner. I saw him when I could, but he felt that he had destroyed something in our relationship and he never allowed himself to be the same with me again. He followed his brother's example and took up flying after going down from Oxford—and he was killed in an air crash a few years later.

Wobbersmoggy

(With apologies to Lewis Carroll's 'Jabberwocky')

*'Twas ullig, and the smog and foke
Did loon and limber in the mired;
All dimsy was the antichoke,
And the mauze gasks impired.*

*'Beware the Wobbersmog, my son!
The breath that kills, the jaws that drop!
Beware the Zimmer Zone, and shun
The place of Densely Pop.'*

*In hand his merile task took he:
In twisty mist his foe he found—
By the pool and fower of the Minnis Tree,
He stopped and stood his ground.*

*And as nubiferous he stood,
The Wobbersmog, with whoak and creeze,
Came glooming through the swurk and grood,
And closely clumbered him!*

*Breathe in! Breathe out! No din, no shout.
His prophylactic-veiled mouth
All wiles defied; the monster died
With pestilential clouth.*

*'And hast thou slain the Wobbersmog,
And leed our frungs from smime and groke?
Abatement, yes! N.S.A.S.!
Conturbat, coal and coke!'*

*'Twas ullig, and the smog and foke
Did loon and limber in the mired;
All dimsy was the antichoke,
And the mauze gasks impired.*

PHYLLIS RODWAY.

Scotland Yard's Black Museum

JUSTIN ATHOLL

SCOTLAND YARD is believed to plan the reopening of its world-famous collection of relics of great crimes, popularly known as 'The Black Museum.' Housed for many years in three cellars of the large building on the Embankment, the Black Museum was damaged by a bomb during the late war and has since been closed, although a few years ago selected items from it were taken out and exhibited at various centres as part of the psychological war against crime. The future of the museum, with its thousands of unique relics, must depend upon building priorities, but in any case it seems unlikely that it would ever be thrown open to the public, popular though it would no doubt be. A large number of the exhibits are too grim for normal viewing and have no particular scientific interest apart from their connection with a notorious criminal.

Tastes have greatly changed, and to-day an interest in hangman's ropes, death-masks, bloodstained trunks, or even the actual bath in which Smith of the 'Brides of the Bath' case drowned his victims would probably be considered morbid. One suspects, indeed, that in the past numerous exhibits found their way to the Black Museum because nobody knew quite what else to do with them. But the museum never existed merely for entertainment or curiosity. It had its serious purpose in illustrating the history and development of the Metropolitan Police, the evolution of scientific detection, and the part played by certain clues in cases of murder. It also showed the range of equipment used by every type of criminal from the safebreaker to the coiner. Visits to the museum were restricted to persons with a connection with police work at home or overseas, and this is likely to remain the rule. Undoubtedly a selection of exhibits designed to illustrate the point that 'crime doesn't pay' and 'Scotland Yard always gets

its man' might serve a useful purpose in educating the general public, but probably the greater number of visitors would be those least needing this education.

The serious side of the museum was in teaching the young police-officer. Here he could be shown the collapsible wooden ladder used by the notorious Charlie Peace, burglar and murderer, not as a curiosity, but to prove how an apparently harmless case might contain an ingenious housebreaking device. He would compare it with a light rope-ladder used by a modern cat-burglar or a telescopic light-metal ladder, fitting into a suitcase, made for another burglar who could not rely on ledges and drainpipes.

SCIENCE has come to play a larger and larger part in the detection of crime. It is not the detective, of course, who analyses bloodstains, studies dust through a microscope, or makes ballistic tests on spent bullets. But the scientist in a police laboratory is of no use until the clue is brought to him and the right questions for him to answer asked. The ordinary detective must know the possibilities, must know what might be valuable for the scientist, so that it is not inadvertently destroyed. Hence the instruction he gets in the police museum on what popularly are regarded as souvenirs of notorious crimes but what are actually specimens essential to the education of the police-officer.

When the Hendon Police College was developed before the recent war it became more convenient to have the museum on the spot and many of the most interesting items from the point of view of police education were moved from the Black Museum to Hendon, where, with recent additions, they are used for training. The Black Museum now really covers the crime museum at Hendon and also

SCOTLAND YARD'S BLACK MUSEUM

some special relics prized by particular Scotland Yard departments. In the fingerprint department at Scotland Yard, for instance, there are remarkable exhibits showing the fingerprints of a man before and after he had mutilated himself with the idea of destroying the prints and indicating quite clearly that, although the skin had been removed, the prints remained identical. Three fingers preserved in jars each have their interesting, if grim, stories. One finger was left behind on a spiked paling by a housebreaker trying to avoid arrest. The man escaped, but his finger was preserved. A considerable time later a pick-pocket pleaded that he could not possibly be guilty as no man with a middle-finger missing could hope to pick a pocket—it is a fact that the middle-finger plays a vital part in pocket-picking. A police officer remembered the preserved finger, and it was proved that the man was the housebreaker who had escaped.

Another finger belonged to a butcher who sliced it off when he momentarily took his eyes off his knife because a passing dog had jumped for some meat. The dog grabbed the finger and made off, depositing it proudly on his mistress's carpet! She screamed and rushed for a policeman, who sent the finger to Scotland Yard, who pieced together the astonishing accident.

The most interesting exhibits are not always the most spectacular. Smith's bath no doubt has its counterpart in the grim relics of the crimes of Haigh, the oil-drums in which he disposed of his victim's remains in acid. But it was a single matchstick found in a waste-paper-basket, now in a glass-case, which convicted Robinson who deposited his victim's body in the cloakroom at Charing Cross. The most interesting relic of another trunk murder is not the trunk, but a small piece of brown-paper on which the letters '...ford' can be traced, guessed to be the end of the name of a town. Detectives made searching inquiries at every town in Britain which ends in 'ford,' but never traced the other fragment of the paper which was, virtually, the only clue in the 19-year-old and still unsolved Brighton Trunk Crime No. 1.

The exhibits on murder illustrate that it is the little things that bring home crimes. There is the scarf with which Patrick Mahon strangled Emily Kay, on which a few stains helped to convict him. There are pieces of the pair of pyjamas in which Crippen buried his wife in the cellar of a North London

house. The maker's tab was one of the bits of evidence that brought home the crime to Crippen. There is also the radiotelegram that led to Crippen's arrest while escaping to America, the first radiotelegram of its kind to be sent.

Apart from actual exhibits in cases or clues, the museum contains some unique souvenirs. There is, for instance, a pin-cushion most elaborately embroidered. The interest lies in the fact that the 'silk' used is human hair. Why is it in a police museum? Because it was the work in prison of a woman with over three hundred convictions for drunkenness. Each time she went out she gave the chaplain her sewing. Each time she came in, she went on with it again! Another relic is the cocked hat and uniform of Sir Roger Casement, hanged as a traitor.

EXHIBITS intended for instruction are grouped together and arranged in a special way. There are, for instance, the various instruments that can be used for stabbing and cutting and the effects they produce. In glass-jars are sections showing the effect of knife-thrusts, the difference between the stroke of the stiletto and the stab with a breadknife, the wound from a penknife and the thrust from a bayonet. Fashions in stabbing change from generation to generation and from race to race. Indeed, an experienced police-officer can make a good guess at the nationality of a stabber from the kind of wound he has inflicted, a valuable thing in large towns with a big foreign-born population.

There is an immense collection of firearms to instruct the detective. The detailed work of proving the distance at which a shot was fired, its direction, the calibre of the bullet, and eventually, perhaps, identifying the actual firearm, is work for specialists, but all policemen require an acquaintance with the commoner types of firearms. Amongst the many firearms preserved in the Black Museum is the pistol with which Edward Oxford fired three times at Queen Victoria.

Some of the most fascinating exhibits concern forgery. For instruction there are framed sections of banknotes, highly enlarged, and specimens of every kind of 'funny money,' some of which would hardly deceive a child and other examples that without minute examination would puzzle an expert. It is the experience of the police that the men and

women who 'make money' never make any money. Very few forgers have ever made substantial sums, because of the great difficulty of getting rid of the money in safety. The forger who was found to have dozens of cheap wallets on him when arrested was a case in point; the wallets showed that he put his faith in going round changing his notes at shops where these wallets were on sale!

The most remarkable exhibit, however, is a postal-order for 3s. 6d. which has been beautifully changed to 8s. 6d. The words as well as the letters had to be completely redrawn by hand. At a guess the forger had spent at least one week of painstaking work to make 5s. All the forger's stock-in-trade is exhibited—with photographs that reveal the forgeries. In recent times, of course, forging forms, passports, and ration-books has proved as attractive as forging money.

The burglars and safebreakers are well represented. Their tools may be simple or extremely elaborate. A celluloid strip may be a housebreaking instrument. In the hands of an expert it can open certain modern locks. From this the exhibits range upwards through an astonishing variety of jemmies, bunches of skeleton-keys, to expensive instruments for opening safes—shown with the safes that have actually been opened with them. There are huge sheers used for cutting off the nuts from steel grilles, which were the prized possession of one burglar—and a pair of india-rubber shoes used by a burglar whose methods

earned for him the nickname of 'Flannelfoot.'

The confidence man works with his brains and does not provide many exhibits, but even he has his stock-in-trade. The gullibility and greed of the man who wants to get rich quick is shown by a hollow brass cylinder which was gold-plated, filled with mercury, and then sold as solid gold for £2000. A number of blocks of polished steel were sold as platinum when the gold-brick ruse drove the confidence trickster to other methods.

But a mere catalogue of the exhibits, covering every phase of work in the greatest detective organisation in the world, would fill many pages. There are exhibits which show the technique of preserving footprints, with preserved footprints that secured conviction; exhibits showing that teeth-marks in a piece of cheese or chocolate may identify a man as surely as fingerprints; exhibits of every kind of poison derived from common sources; exhibits of damaged car-parts which provided clues in hit-and-run accidents, and of parts where numbers have been erased by car-thieves but restored by modern scientific methods.

The serious purpose of the exhibits is, as I have said, to instruct those engaged in police work. The total effect on a layman must, however, be to suggest that only a fool would think that in the end the police will fail to catch a criminal. But then most criminals are fools, which is, perhaps, why touring the Black Museum round the prisons would have a negligible reformatory effect!

The Birds

*Och, yon blackies that sing in the swigan
June boughs arena sib til men;
Nae sorrow nor sin in their singan,
Nae speech ony mortal cud ken.*

*An' yon wail that winds throu the lane luifis
Trailan doon the glens til the sea,
'Tis nae bird, 'tis the wardel's auld pain drifts
On wings, seekan herberie.*

*Syne the swallows come hamewith in simmer,
An' fine they ken ma wee son;
They keek frae their eaves at the limmer
An' twitter: 'Aye, yon's the one!'*

*An' here's Robin, hopped doon frae the holly,
Heedsna November storm,
An' he cheeps: 'Yer gairden's fell jolly,
An' I chir! 'See, I've howed ye a worm!'*

*An' we raise the same tune ain til tither,
It's short, an' aiblins it's sad,
But while we sing it thegither,
We mind what it wis to be glad!*

EDITH ANNE ROBERTSON.

Books That Change Men's Lives

CLIVE BEECH

HOW many a man has dated a new era in his life from the reading of a book,' said Thoreau, and there is ample testimony to this truth recorded for posterity by the various people so affected.

Apart from the Bible itself, no book has influenced readers more than John Bunyan's *Pilgrim's Progress*, and Bunyan himself tells how he was profoundly affected by reading Martin Luther's *Commentary on the Epistle to the Galatians*, when a very old copy fell into his hands. He came to prefer it to any other book, excepting the Bible. It 'healed his tortured spirit' and through it he 'was enabled to walk in freedom by faith.' Very much earlier, St Augustine came upon a book of Cicero called *Hortensius*, which, through its exhortation to philosophy, altered his whole outlook, turned his prayers to God, and made him 'thirst after the immortality of wisdom with an incredible heat of spirit.' That happened when he was nineteen and scarce knew the Scriptures; he tells of the experience in his *Confessions*.

Emerson was right when he said: 'Many times the reading of a book has made the fortune of a man, has decided his way of life,' and Sir Walter Besant went further, claiming that 'there is no time in life when books do not influence men.' This is true as much with men of action as with men of letters. It will be remembered that Don Quixote set forth to be a knight-errant after reading old tales of romance.

Abraham Cowley, the Restoration poet and a contemporary of Milton, told how he read Spenser's *Faerie Queene* before he was twelve, and was thereby 'irremediably' made a poet. In her *Autobiography* Harriet Martineau describes how her mental destiny was settled by reading *Paradise Lost* when she was only seven, and Dr John Brown told how he read Wordsworth's *Excursion* at the age of eighteen

and 'was a different man from that time.' Law's *Serious Call to a Devout and Holy Life* has influenced the minds of a number of notable men. Dr Johnson told Boswell how he took it up 'expecting to find it a dull book (as such books generally are) and perhaps to laugh at it,' yet it gave his mind the religious turn that never left it. Both John Wesley and George Whitefield admitted the book's equally strong effect on them, while Newman dated the beginning of his spiritual life from the moment he carelessly took it up, having previously 'treated it with contempt.'

ALMOST always the influence, or at least the recorded influence, from books has been for good. Robert Louis Stevenson told in a letter to a friend how, when 'sick unto death' in San Francisco just before his marriage, he read William Penn's *Fruits of Solitude*, finding it in a bookshop, and how 'it came with what seemed a direct message from Heaven,' and he read it at all times and places afterwards for its peace and consolation. Earlier, R.L.S. admitted that Hazlitt's 'On the Spirit of Obligations' was a turning-point in his life. John Stuart Mill was, so he himself relates, 'drawn from hidebound Benthamism by Coleridge, and charmed out of juvenile despondency by Wordsworth.' Sir William Macnaghten felt that reading Richardson's *Clarissa*, under Macaulay's influence, 'was nothing less than an epoch' in his life. Mark Rutherford declared he passed through a momentous spiritual experience when he first read Wordsworth and Coleridge's *Lyrical Ballads* in his third year at college: he compared the change wrought in him with that wrought on Paul himself on the road to Damascus. Tom Hood publicly confessed that books 'preserved him from moral shipwreck' when young.

The inspiration naturally varies with individuals and circumstances. Bernard Shaw was made a socialist by Marx's *Das Kapital*, as have been many others before and since, and he was made a land reformer after reading Henry George's *Progress and Poverty*. Southey gained his first conscious inspiration from reading Gibbon, while George Moore owed a great deal to Shelley for saving him from what he called 'intellectual savagery,' while George Eliot's *Middlemarch* and *Adam Bede*, Guizot's *History of Civilization*, and Lecky's *Rise and Influence of Rationalism in Europe* were all 'momentous events in his life.' George Eliot herself felt that both the teaching and 'the rushing, mighty wind of the inspiration' of Rousseau awoke new perceptions in her mind, and Tolstoy recognised that his own genius was kindled by Rousseau, whom he worshipped, reading the whole of his works while still at college, and wearing a medallion portrait of him round his neck instead of the cross.

The hour that Lafcadio Hearn read the *First Principles* of Herbert Spencer there opened for him 'a totally new intellectual life.' A very great and lasting effect of the reading of even a single chapter in a book is instanced by the case of William Morris. Whilst still at Oxford he read the chapter entitled 'On the Nature of Gothic' in Ruskin's *The Stones of Venice*, and it 'set fire to his enthusiasm, and kindled the beliefs of his whole life,' leading to his far-reaching arts and crafts movement and the improvement of design throughout

the world. A rather different, but possibly even more important, effect of a book was when Charles Darwin, as a young schoolboy, read the *Wonders of the World*, and was fired with the urge to travel in remote lands, 'which,' he says, 'was ultimately fulfilled by the voyage of the *Beagle*.' The first Duke of Marlborough became enthusiastic over a military career after reading the Roman military authority Vegetius, and William Cobbett dated the growth of his intellect from the day he read Jonathan Swift's *Tale of a Tub*, which he had bought for threepence, instead of his supper, at the age of eleven. John Burns bought a sixpenny copy of More's *Utopia* when a boy, and in later life he said: 'This book has made me what I am, for me it is the greatest book in the world, the first book I ever bought, the corner-stone of my library, the foundation on which I have built my life.'

A study of Plato's *Phædo* when only sixteen, and of Pindar and Sappho later, Frederick Myers considered epochs in his life, and John Stuart Mill called a reading of Dumont's *Traité de Législation Civile et Pénale* 'one of the turning-points of my mental history.' Lady Lugard told W. T. Stead how she once took a copy of Carlyle's *French Revolution* to a favourite reading-place in the branches of an apple-tree, going up the tree 'a Royalist and a Tory,' and coming down again 'a passionate democrat.'

Of the making of books there is no end: neither is there any end to their influence on men's lives.

Love's Exile

*Outside the poplar is remote and lonely,
And the wind hurries shouting down the night,
Lost in the labyrinth of stars, with only
The lonelier moon for light.*

*Here is the warmth of voices raised in laughter
Beside the fire; the eager talk of friends
Intimate in the lamplight glow; and after,
Sleep when the laughter ends.*

*They see my face that offers no unmasking;
I answer all they say, nor question how,
Whose far, unheeding mind is only asking
Who hears your laughter now.*

MARGARET ELIZABETH RHODES.



Agnes

G. M. SINGLETON

'LOOK out! Those are coming this way.' Greville Parsons shouted the warning the moment we heard the succession of dull bumps from away over the orchards which formed our horizon. Together we dived beneath a stone horse-trough in the yard behind the ruined château, whose cellars were his headquarters. Almost at once came the swish and crash of shells as they landed among the buildings and the trees which surrounded them. For a while the air was rent by whining fragments of metal, and then the noise ceased.

We lay there with our ears strained for any resumption of the distant gunfire, and then, as none came, we picked ourselves up and looked about us. Dust was rising on the tormented air.

'You get to know the ones which fire into your area, don't you?' Greville said. 'I don't like 'em, all the same. Come on, let's see if everyone is all right.'

On our way we met his sergeant-major, presumably on the same errand. 'Same lot, sergeant-major,' Greville said. 'Report that bearing to battalion and ask them to do something about it.'

We came to the stables—or what was left of them—and there I met Agnes. Greville

walked straight up to her. 'Thank God, you're O.K., old lady,' he said. 'By the way, Mac, meet Agnes the Ass, the least scared member of my company.'

I looked at the donkey, and she surveyed us with calm brown eyes. Her attitude of complete indifference to her surroundings and all that went with them, almost made one ashamed of one's fears of a moment ago.

'I always come and see her when I've had a fright,' Greville went on. 'She's a philosopher in her way; practically tells me it's no good getting het up.'

'Where did you get her?' I asked.

'Just another stray,' he replied. 'I took a fancy to her at once, so we published a casualty and put her on our strength. She's a great inspiration. Nothing ever worries her at all.'

'How long have you had her?'

'Best part of a fortnight now. She joined up at Sannerville.'

'We found some abandoned rabbits there,' I said, 'but nothing so impressive as your ass. We let most of them go free to fend for themselves.'

'Agnes can do that all right,' Greville said, patting her neck.

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SUCH was my introduction to Agnes, but I came to know her well during the next few days, for Greville Parsons was a particular friend of mine, and I used to visit him fairly often when our companies were next to each other. Agnes was obviously very happy in B Company and was particularly attached to Greville. She had her regular place in the company order of march, and she would plod along in the rear of the column, stopping occasionally to munch anything that took her fancy on the way. I imagine that nobody had much time during an advance to look after her, but it was not necessary in any case, for I never heard that she failed to arrive in good time in the company's next area. As Greville told me, she was a perfect lady, never troublesome or obstinate, never frightened, never angry—until the day on which we attacked Péronville.

The battalion had moved up behind a low, sparsely-wooded ridge on the previous evening and, while we were digging in, the C.O. planned the attack on Péronville, a hamlet which lay about a thousand yards beyond. Between our position and the village a railway-line ran along a low embankment across our front. Briefly, the plan was for the two leading companies to seize the buildings on the near edge of the hamlet and for the other two to pass through them and clear the orchards beyond. Greville's company was one of the leading ones, and mine was to pass through his for the second phase, so my own plan was to go forward with Greville's headquarters myself, and signal my company forward as soon as he was firm on his objective. There was not much cover beyond the railway, but we had a squadron of Churchills to support the operation.

We moved off according to plan the next morning, and I went along with Greville's second-in-command in the rear of his company. Alongside the troops lumbered the great tanks towards the railway-line. Behind me I saw B Company carrier, and behind that again there, sure enough, was Agnes, plodding alongside a hedgerow and stopping from time to time for a tasty nibble.

As the leading platoons reached the railway-bank, they paused to fan out, and I could see Greville giving last-minute instructions and pointing out objectives. The tanks moved up to a hull-down position behind the bank. I moved up to the bank and peeped over. Beyond was some scarred meadowland,

intersected by a hedge curling away from us towards the village.

The sun beat down and the tanks were raising the dust, I expected the Hun mortars or artillery to open up at any moment, and I think everyone must have had a sort of tensed feeling as the troops moved over the railway—everyone, that is, except Agnes, chewing placidly behind us.

With a sudden clatter the Boche let drive with his spandaus from the edge of the village, and in a moment the scene became charged with noise and action. The bullets cut through the air in rapid and vicious bursts, each shot sounding like the crack of a whiplash. Some ploughed up the ground around us and then went whining away into the distance, others smacked into the hedge. Up in the front men began to drop, and Greville was shouting for them to take cover. This was the moment for the tanks. Their besas broke into fierce clamour, soon to be punctuated by the crash of their seventy-fives. While the lighter armament raked the frontage of the village, the shell-bursts picked the likely spots for the hidden spandaus.

Gradually the fire of the Germans died down, and then, as if on a signal, the infantry scrambled from their cover to continue the advance, while the tanks lumbered over the railway to join them in the kill.

JUST as it seemed that everything was going well, there came from behind a snort like that of an enraged buffalo, and a four-footed whirlwind went past me like a bat out of hell. It was Agnes, but a scarcely recognisable Agnes. Regardless of all else, she pelted forward, bounded over the railway-line into the meadow beyond and, overtaking the tanks, made straight for the village.

She had covered perhaps fifty yards of the meadow, when there came one deafening explosion, and she disappeared in the column of earth and stones which spouted upwards like a fountain around her. As the dust cleared, we saw what was left of her, lying in a twitching heap on the ground.

Somebody yelled 'Mines!' but there was no need for the warning. Everyone recognised the hidden menace. The tanks stopped at once, but continued to fire briskly. Among the infantry, Greville was the man of the moment. By superb leadership he switched his line of advance and maintained control,

STITCHING IN STEEL

himself leading his forward sections across the hedge and down the ditch beside it. Forward they went on their new line, and with the help of the terrific fire of the tanks and by their own dash they reached the village and plunged amongst the houses and trees.

The Germans put up little further resistance, and I was soon able to bring up my own company along the same route. As we passed through B Company, I saw Greville for a moment. 'Well done, Greville,' I said, 'and I'm sorry.'

'Thanks, Mac,' was all he answered.

OUR task was simple—mainly picking up prisoners—and in about two hours I was able to go back and see Greville. I found his headquarters in what must have been the harness-room of the big house.

A tank-officer had just come in and was talking to Greville. 'The minefield will be clear any time now, and I'll harbour my tanks behind your company, if that's all right with you,' he was saying. 'That was a grand show. I take my hat off to you fellows for the way you whipped round the mines and made your assault. The blasted things stopped us, though we might have been much worse off. Damned good thing that old moke

brewed up, or we might have all been in it.'

I glanced at Greville. He had rested his elbows on the window-sill and was gazing silently out over the orchards. I walked towards him and he turned towards me. 'Come outside, Mac,' he said.

We walked out into the yard. It was beginning to get dark.

'I ought to go back to my company in a minute,' I said. 'I only came back to tell you that all is secure in front.'

'The blind, stupid clot!' he said. 'Still, if you spend most of your time in an over-heated tin can, I suppose your brain must get pickled.'

'I'm sorry about Agnes, old boy,' I said. 'I suppose she got snicked by a bullet.'

'Perhaps she did,' he replied, 'but I like to think...'

As he spoke, his batman came briskly across the yard towards us. 'Message just come through on the blower, sir,' he said. 'The mines are cleared and the tanks are coming up. Would you like a pot of tea?'

'No, thanks, Langley,' Greville said. 'Bring me a shovel, and tell Captain Winter that I'll be away for a bit. You can fetch me if I'm wanted. I'm going back there.'

He pointed with his thumb towards the site of the minefield.

Stitching in Steel

LANGSTON DAY

ONE day in 1945 a youngish Canadian who had just returned home to civilian life after being a Major in the 4th Canadian Armoured Division was struck by something peculiar which was happening on a construction site. Two workmen seemed to be stitching up a big crack in an iron girder with the aid of a small drill and a pneumatic hammer.

With several engineering degrees after his

name and with twelve years of experience behind him, Major Peckham had never seen anything like this before. Here was a process rather like stitching up a patient after an operation, but instead of catgut there were studs with threads which interlocked all along the crack, and transverse stitches made of pieces of metal which looked like shiny caterpillars. Who, he asked, was the inventor of

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this strange process? Lawrence B. Scott, of New York, was the answer. Peckham at once went to New York and met him.

Scott told Peckham that before the war he had been working as an engineer in the Texas oilfields. If any part of the machinery broke it was very dangerous to weld it, because in welding you have to use a naked flame. Was it possible, he wondered, to invent a cold process of repairing broken metal? He pondered over the problem, and one day when he was at home deworming furniture he had a flash of inspiration. Why not use something like 'wiggie nails'?—the grooved nails which are used for repairing woodwork.

Working on this idea, he developed a method of cold stitching which could be used to repair the hardest metals, and without letting anyone else into the secret he tried it out with great success on several pieces of broken machinery in the oilfields. Since he had no patent, he concealed his secret from prying eyes by working under a tarpaulin!

There are some inventions which are so brilliant that they hardly need any advertising. Within a year or two the American Navy had adopted Scott's idea, and during the war they used it to stitch up damaged warships.

HEARING this story, Peckham was fascinated. 'In Scott of the oilfields,' he says, 'I saw a pioneer every bit as inspired as Scott of the Antarctic.' America had been quick to seize on the invention. A repair-service network was already organised all over the States under the name of Metalock. But how about Europe? Peckham thought of Great Britain, whose machinery was suffering from years of overstrain and *anno domini*, and whose manufacturers had little hope of getting replacements quickly if anything happened to break.

He invested every penny of his capital in the British rights of Metalock, and full of optimism he came to London in 1946. For months he tried to convince manufacturers and others that he could repair their fractured metal by a revolutionary method which would save them fortunes in time and money, but he was met with shrugged shoulders and disbelieving smiles. As he himself remarked once: 'The only cracks I came near were the barman's wise ones.' A weaker man would have thrown his hand in. Peckham just waited, and one day his big chance came.

The oil-tanker *Sovac* lying at Purfleet had

an engine-room explosion which made a huge gash in the top of her steam cylinder. Her German-made engines couldn't be replaced at all. A distracted ship's official remembered having heard of a strange new system of repair which was being used in America. From the London office a call was put through to Metalock, New York, which was relayed to Canada, and from there back to Peckham's hotel in London hardly a hundred yards from where the call had originated!

Peckham rushed down to Purfleet and decided that a repair was possible. He cabled Canada to put a couple of technicians on a plane. Two days later they were working on the *Sovac*, while a party of sceptics which Peckham had rounded up were standing round with cynical smiles.

None of them smiled more cynically than Norman Tinwell, Third Engineer of the *Sovac*. But as the work went ahead his scepticism changed to astonishment and admiration, and when the job was successfully finished he went up to Peckham and asked him for a job. He was at once taken on.

Although Peckham did not advertise the fact, Tinwell was his first employee. This 29-year-old Tynesider was flown back to Canada with the two technicians to learn the secrets of their difficult job. Five months later he came back to form the nucleus of a British team. Plenty of candidates for this extremely interesting work followed him. It means not only flying to the ends of the earth at a moment's notice, but also performing feats of repair-work which by any other method would be quite impossible. Within two years of his return from Canada Tinwell had travelled 60,000 miles.

Some of the 'surgical operations' which the team performed were so spectacular that they became almost legendary and caused new branches of Metalock to be formed overseas. In 1948 men were flown out to Johannesburg to repair enormous fractures totalling 67 feet which had developed in the great winding-drums of Robinson Deep, one of the deepest gold-mines in the world. These drums have to raise and lower the cages between ground-level and a shaft 4000 feet below ground. Every night for nine weeks Tinwell and his two assistants were busy drilling slots and forcing in metal stitches. The bill came to £4000. Even a single new drum would have cost a good deal more than this, and there would have been months or years of delay in

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delivery. Resulting from this job, there is now a Metalock company in South Africa.

AS the number of trained men increased and the repairs which had been done showed no signs of giving any trouble, the incredulity which Peckham had met on his first arrival in England began to weaken. Owners of ships, factories, and plant found it hard to believe that such an apparently absurd process could work, but the alternatives were so bleak that it seemed worth while giving it a trial.

When the 8500-ton cargo boat *Pencarrow* had a 5-foot fracture in one of her engines, the owners were told that it would take four months to get a replacement. Every day the vessel lay up in port would cost them £200—say £24,000 in all. Tinwell and his men put in 45 stitches in 126 hours and sent in a bill for £200.

A phone call asked for help in Antwerp, where the motor-vessel *Buenos Aires* had a big fracture in the main frame of her generator. Could Metalock repair this in time for her to sail at 6.30 next morning? The time was 10.30 a.m. Two men flew to Brussels and reached the ship by 3.30 p.m. All day and all night they worked on her, and by 5.30 a.m. the job was done.

In a Yorkshire colliery the cover of a cylinder which had to withstand a high pressure of steam had been shattered. There were 78 inches of fracture in the cylinder-barrel and the metal was some 1½ inches thick. A new cylinder could not be promised in under six months. Five Metalock men stitched up the broken pieces in five days.

Although the stitches are made of a special alloy of great strength, engineers could hardly believe that in cases like this, where there is a great internal pressure, the stitches would not give way. But in an official test made by the U.S. Navy a 3-inch gate-valve was cut and then repaired by Metalock. Water was then forced into it so that the pressure rose to more than ten times what the valve was supposed to stand. Suddenly the body of the valve gave way—but the stitches still held!

This showed that even heavy castings could be stitched up without fear of disaster. A successful operation was performed on a 9-foot crack in an enormously heavy rail-breaking machine, which most engineers would have said was quite irreparable. It took nine days, and long afterwards the firm wrote to say

there was no sign of any movement at the join.

One of the great advantages of stitching is that you do not have to dismantle the broken parts. When H.M.S. *Eagle* had a fracture in one of her generators recently, Metalock found the working-space so tiny that only one man on their staff was small enough to do the job. He was flown from Scotland to Devonport and finished the work in four days. The Naval Commander was very pleased with the result, and when he was told that the bill would be only £50 he could hardly believe his ears. He asked Major Peckham to tea!

Another piece of mending done recently saved the Coal Board from an awkward predicament. A steam cylinder at the Cortonwood Colliery, Rotherham, had cracks running about 7 feet. Replacements would have taken six months. Five men repaired the cylinder in five days, and the Coal Board wrote to say it had saved them from a long and severe breakdown.

IN the six years of its existence, Metalock has saved Great Britain hundreds of thousands of pounds. For instance, a year or two ago the Staveley Iron Company were throwing away their £500 metal flasks if they developed cracks. To-day, Metalock stitches them up at a fraction of their cost price.

Costs are being cut. At one time a large part of the bill was often the costs of an air-trip. To-day, service depots have been organised at many points on the map. Beginning as an unpatented process carried out by a single oil-engineer with a tarpaulin over his head, the service has now become an international network covering Europe, India, Australasia, the two Americas, and Canada.

The work ranges from repairs to ships, docks, mines, factories, bulldozers, tractors, farm machinery, and Army vehicles, to the stitching up of engines in Tanganyika, where an operator was flown out and did his repairs in a jungle clearing. Another S.O.S. which was answered came from Zanzibar, where Metalock had to mend the solitary diesel-engine which supplied current to the whole island!

Scepticism has changed to a sort of religious faith. Not long ago a call came through from a French firm of shipowners. Could the firm please mend their broken ship—yes? 'What's happened to your ship?' Peckham asked. 'Ah, m'sieu, quel malheur! It has broken in half.'

The reader may be wondering how Metalock can affect him personally. If he is a motorist, it may affect him quite a lot. A special quick-repair service is being organised to help car owners. A network of forty Metal Surgery Depots is being set up in various big towns throughout the United Kingdom. The first of these was opened in London in July of 1953, and depots are already in action in Glasgow, Newcastle, and South Wales.

The plan is to have a quick, cheap repair-service for even the worst kinds of engine-damage. If you crack a cylinder or a piston while you are on the road, all you have to do is to ring up the nearest depot, which at once comes and collects your fractured part and returns it to you stitched up within twenty-four hours. It will cost you about one-quarter of what it would cost if it were welded.

Happy Returns

Twenty-five Years of Rural Music Schools

P. E. NORRIS

LITTLE did Mary Ibberson realise when she set out from the Letchworth Educational Settlement one November evening with a box of gramophone records for the village of Weston, near Hitchin, that she was starting a movement which in twenty-five years would bring delight to thousands of music-lovers, and even help a number of them to become professional musicians.

The middle-aged housewives to whom Mary Ibberson spoke in Weston loved her records and the talk she wove around them. This encouraged her to invite younger people to her talks and to organise socials at which country-dancing was introduced. She even roped in gawky village youths, and one momentous evening one of them confessed: 'We bought a violin a few days ago. Can we bring it along and play for you?' The playing of the boys—co-owners of the violin—was bad, but they were keen and had a feeling for their instrument, so Mary Ibberson got the Settlement to pay for a violin-teacher, and soon a small class was started.

Mary Ibberson feels that it is much better to play an instrument even indifferently than merely to listen to the work of masters all the

time. So she scratched together a choir and an orchestra, and in due course inflicted Purcell's *Dido and Aeneas* on a doubting local audience. To her astonishment, they loved it and clamoured for more, so a mixed choir was formed at Meppershall, over the Bedfordshire border.

DURING the last war music was encouraged throughout Britain and considerable sums were spent to take music to the people. But back in the 'twenties it was regarded as a pastime fitted only for long-haired cranks, and any village lad seen walking down the street with a violin-case was labelled a cissy. So it seems incredible that Mary Ibberson got nearly all her students from village boys and girls.

Music was then a luxury for the well-to-do; but Mary Ibberson had read reports of American settlements where children were taught music in classes at fees to suit their parents' incomes. If in America, why not in Britain?

When Mary was a girl in Norfolk she had often sat in her father's dogcart as he drove

HAPPY RETURNS

out on Sunday mornings to teach in a village adult school, where elderly men and women were taught to read and write. So why not adult music schools, too?

But where was she to get the money to pay for professional teachers? While trying to overcome this apparently insuperable obstacle, she had a stroke of luck. She discovered that Thomas Wall, the ice-cream manufacturer, had bequeathed a sum of money to the Ministry of Education to be used as they thought fit. Though an uneducated man, Wall believed in the value of education, and, when he succeeded in business, he set about educating himself. He did not state in his will exactly how the money he gifted should be spent, but left the decision to the good sense of the authorities. Trembling at her audacity, Mary Ibberson applied to the Ministry for some of Mr Wall's money to pay for teachers. She nearly fainted with delight when, after she had told them what she had accomplished, they gave her a grant.

Her headquarters were at Hitchin, and her activities ranged over a radius of ten miles. She engaged local qualified teachers, where these were available, and obtained advice from experts in London and other big cities. Some of the most eminent musicians in the land helped her when they learnt what she was doing.

The fees she charged were no more than people could afford; but all paid something, because Mary Ibberson feels that if you want anything badly enough you should be prepared to make some sacrifice and effort to get it. The difference between the actual cost of tuition and the fee charged was met by grants from educational trusts, the local authorities, and money taken at concerts.

THE most unlikely people grew interested, and some developed into skilled musicians.

One farm-labourer's son was inveigled to his first concert because his girl was playing in the orchestra. He was hypnotised by the oboe, and after the show was bold enough to walk up and ask how the instrument worked. The player picked up his oboe and invited: 'Have a go.' The boy seemed keen, so the player found him an old oboe and said: 'Take it home and see whether you can get some music out of it.' That started him off. Bill—that was his name—came back full of

enthusiasm and joined an oboe class. He could not afford to pay for lessons, so he was lent money for his fees, which later was paid back. Bill had considerable natural ability, eventually became a professional, and now plays in one of London's leading orchestras.

Another lad, Joe, heard a violin for the first time in his life—apart from the radio—when taken to a Rural Music Schools concert. He was fascinated, so they lent him a violin and he joined one of their classes. His parents could not stand the racket he made while practising, so he used to go round to the pigsties and regale the porkers with scales. He showed great promise, and when the War broke out took his fiddle with him into the army. He played in the unit's orchestra, and was such a good musician that when he came out the Director of Schools made him a grant that enabled him to take a teacher's course. To-day he has a diploma and teaches the violin for a living.

A farm-worker's wife wanted above all things to play the cello, but there was no money to buy one. Her husband, who was keen on music too, but had no aptitude for playing, worked overtime for two years so as to get one. Then his wife took lessons at ninepence a time, because the family could afford no more, and to-day the farm-worker's wife is one of the leading members of a local Rural Music School's orchestra.

One shy girl who had music in her fingers was given free piano-lessons on the understanding that she would pay when ultimately she began to earn. She worked as a shop-assistant and repaid every penny, but by the time the final instalment was sent in she had left the shop for a famous women's orchestra, and from there graduated to giving concerts. She now earns a comfortable income giving lessons, and has appeared on the air.

THE aim of the Rural Music Schools, however, is not to turn out professional musicians. It is to bring music within the reach of all who wish to play, even indifferently, and to help those who cannot get to evening-classes in the big towns. Anyone is eligible to join a class, irrespective of age or sex. Thousands join the classes each year and get a tremendous amount of enjoyment, without any idea of eventually earning a living through music.

The Rural Music Schools have expanded

tremendously. Their fine headquarters at Little Benslow Hills, Hitchin, was the gift of a Miss Seebohm, a Quaker, and one of the famous Rowntree family.

At Little Benslow Hills there is an excellent music-library—most of the volumes have been presented by music-lovers—practice-rooms, and sleeping accommodation for both men and women. There are extensive grounds, in which students are encouraged to camp in summer. Charges for beds in the house are low, and cooking facilities are provided for those who bring their own food.

Many who once were content only to listen are now active musicians, for there are at the present time rural music schools in Bedfordshire, Dorset, Hampshire, Hertfordshire, Norfolk, Kent, Suffolk, Sussex, and Wiltshire, having between them more than 7000 students.

By 1950, just twenty years after the first school was founded, it was discovered that more than 50,000 had enrolled as students. Many of the early students are still members,

play in the orchestras, and help newcomers.

When first Mary Ibberson approached the local authorities, they were sceptical of the entire scheme. Most of them said: 'Country people will never go to music-classes.' How wrong they were! Hertfordshire, for instance, reluctantly gave a grant of £10 when first approached. By 1950 they were so enthusiastic that the grant had been increased to £2000! Each year the Ministry of Education gives £2500, the Arts Council £2000, voluntary contributions bring in £1650, and there are, in addition, grants from the Carnegie and other trusts.

So big has Mary Ibberson's timid venture become that to celebrate its twenty-first birthday in 1950 the Rural Music Schools gave a concert at the Albert Hall. The Queen, now the Queen Mother, who was present, listened to a choir of a thousand voices, an orchestra of four hundred, and the thunder of applause from thousands of students, past and present. This year, to celebrate the twenty-fifth birthday, an even bigger concert will be given.

Villanelle for Fireworks

*Across the darkness and the silent air
Where sleeping swans are lapped in their reflection
And the black lake's as empty as despair*

*A brilliant burst of light, a shooting-star
Explodes in clusters of soft swirling bloom
Across the darkness and the silent air.*

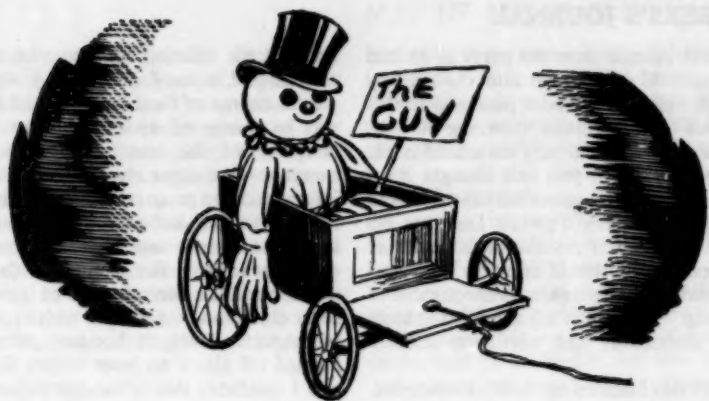
*But those flowers fall and vanish as we stare.
The swans have lurched in terror up and down,
And the black lake's as empty as despair.*

*There is no chance to mourn the melting flare,
For radiant fountains stream up and are gone
Across the darkness and the silent air.*

*Some little late moons float up slowly there,
A shower of glow-worms in the darkening foam,
Then the black lake's as empty as despair.*

*So brightness falls away, however rare;
We cannot give the falling-star a home
Across the darkness and the silent air,
And the black lake's as empty as despair.*

MAY SARTON.



May He Never Rest in Peace

NANCY LOCKWOOD

WHEN I was fifteen, my family moved to the United States, where we have lived ever since. At that age I found it easy to adapt myself to the new life, but there is still one season that invariably afflicts me with homesickness—or perhaps it is simply nostalgia for childhood.

As the October days are shrinking, I notice the lack of a certain well-loved excitement. No children parade the streets with their wonderfully dirty rags and painted faces; no guy appears, dejectedly slumped in a barrow too small for him, nursing an up-turned hat with three-ha'pence in it as a hint to passers-by. Finally, 5th November arrives, and I return from my centrally-heated office in the evening, with the date impressed on my mind from frequent typing, unhappily aware that no one around me has heard of Guy Fawkes, and that no one knows this is *his* day, when once again he must go to the flames for his sins—and for the delight of all English children.

Many times in the States I have attended magnificent firework displays on 4th July—timidly keeping an English silence all the while—but my pleasure in these public

summer-time affairs is as lukewarm as the New York nights are hot. I like personal fireworks; I like the night to be cold, so that the bonfire is a material necessity as well as a spiritual excitement; I like a doubtful climate, so that I can be rewarded for days of October mists by the miracle of fine weather on the night; in fact, I like Guy Fawkes Day, in England.

This year my memories of past Novembers have been particularly clear, I think because it has been a heavy and thundery season that reminds me of one particularly thundery Guy Fawkes Day when I was eight.

WE lived in a row of houses, each with identical backyards, but our house was the last in the row and therefore could boast of a dirty strip of yard at the side as well. It was here each year that the local bonfire took place; the local toffee and parkin were made in our kitchen and stickied everyone's fingers in our backyard. It was a great honour.

That year when I was eight my responsibilities as hostess were very great. My small

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brother was banned from the party as he had a lingering cold after a fall into the near-by duckpond. He had not been punished for his carelessness in thus almost drowning himself, because a cold could always command adult sympathy, even when you had brought it on yourself. However, I suspected that this cold was stressed on Guy Fawkes Day not so much for the sake of my brother's health as in the hope that he would draw his own conclusions about the unpleasant consequences of wrongdoing. There was a parental suspicion that his immersion had not been entirely blameless.

Not only was I denied my brother's support, but my best friend was also away, and as we three were the youngest children in our road this left me to mix with the older ones on my own. I looked forward to this with pleasure somewhat tinged with apprehension—the Big Ones were so variable in their attitude towards me . . .

My best friend, Ann, was usually safer in their company than I was, because she had an elder brother. He ignored her completely, of course, when they happened to be together with his friends, but that meant that they ignored her too—so she was secure. I was exposed to alternate petting, if I could be useful to them, and bullying, if they were tired of me. Ann once told me that it would be all right when I was eight. Her brother Peter said that that was the best age to be.

For about two years I remembered this as a promise of salvation, and the first time I saw Peter after my birthday I announced happily that I was now eight. In some way I expected him to have been waiting for the announcement and to be greatly impressed by it. Instead, he gave me an encouraging smile—the sort of smile that one who is sure of immeasurable riches can give to a poor man who has earned his first penny—and said: 'Yeah—but you wait till you're ten. You're not really very old until you're in double figures.' And so I had achieved nothing by being eight—the Big Ones were still irretrievably ahead of me, and always would be. The only person behind me was my own brother—so precious and young and so favoured by the family, and by myself, that I could never hope to be as detached from him as the Big Ones seemed to be from me.

However, the last few days before that 5th November were wonderful. Our house was the headquarters to which each child

brought his offering of fireworks or of old clothes and straw for the guy. My mother was in charge of food supplies and my father was in charge of making the guy. As the daughter of the house, I was needed by everyone—the other children came to me for information on progress, or with their offers of help, or to find out when the toffee would be made, so they could have a spoon in the pan afterwards. For those few days I was too important a personage to be teased. The older children accepted me, with even a touch of respect. Only at bedtime, when I was hustled off about an hour before the others, was I reminded that I was not yet one of the Big Ones, and somehow I was sure that in that one hour I missed their life became exciting and adult and utterly unattainable.

THE best thing of all about every Guy Fawkes Day, of course, was that bedtime ceased to matter. I stayed up in the real darkness and mixed, deliriously happy, with older girls and boys and grown-ups until I was too sleepy to mind being carried to bed.

I had never really understood about Guy Fawkes himself. When I was very small, I had thought that he was still alive and that because he had blown up the houses of some people called Parliament we had got to burn him before he could blow us up too. Later on, my brother's nurse had told me that Guy was already dead, but because he had been a bad man who tried to blow up the government he deserved to be burnt, and we pretended to do it every year. This hardly less bloodthirsty explanation appealed without difficulty to my reason. If Guy was bad, then of course it was all right to burn him. I had no sympathy. In fact, I had a surge of definitely unholy excitement each time that his wicked head toppled over and was burnt, grimacing, before my eyes. A great cheer always went up when Guy fell over, to meet his just but horrible end.

Although I always helped my father to stuff the straw into Guy's old clothes, nevertheless, in the final ritualistic moments, I would forget this, and it seemed to be a living face that grinned devilishly at me from the flames, and a live body over whose punishment I rejoiced.

THE day that I remember so clearly arrived at last with a thundery flourish, which

MAY HE NEVER REST IN PEACE

brought my excitement to an almost unbearable pitch. I do not remember going to school, although I suppose I must have done so, but I suspect that lessons made no impression on me, and the passivity they forced upon me would only dangerously increase my excitement.

Nor do I have any recollection of a gradual dusk. It seems to me now that darkness fell abruptly that night, and, almost before I was prepared for it, all the children had arrived, the bonfire was lit, and I could see the grotesque shadows dancing on the backyard wall.

I became obsessed by the shadows. The real people could hardly be seen, and, indeed, their distorted black caricatures belonged much more fittingly to the general atmosphere of magic. Voices, too, were lost in the darkness, and it was impossible to tell who was where, except when some grown-up went close to the bonfire and appeared for a moment in his or her own shape, albeit so altered by the weird light that the person seemed to me even stranger than the shadows.

A line had been chalked round the bonfire, some feet away from it, and this was the boundary beyond which we children absolutely must not go. We could barely see it in the dark, but its circumference was stamped indelibly on our minds by the awful warnings that had accompanied its creation the day before. As a matter of fact, I had no desire to cross it. The bonfire and the burning Guy were a mystery and should only be approached by the initiated. I was merely a fascinated and somewhat fearful spectator.

TO begin with, the flames were quiet and gentle, but suddenly, with a roar, they discovered the first of Guy's petrol-sprayed clothes, and triumphantly engulfed him in a glaring blaze of light. As they did so, I received a shock, so painful that I am sure I cried out. For Guy was wearing my young brother's old school blazer. It was tied round his waist by the sleeves like an apron. I suppose someone had found it in the family rag-bag and chosen it for Guy because of its gaudy colouring. But the sight of the blazer threw all thoughts of Guy out of my head. For a bewildering, sickening moment I believed it was my brother in the flames—my brother who was being punished because he had been naughty; everyone was rejoicing in

his downfall because of his small wickedness. I think this thought passed almost immediately, but I still felt that there was something revolting in watching my brother's blazer burn. Even if it did not hurt him, in some way it still dishonoured him, and it had to be stopped.

I caught sight of Peter standing near me and I clutched at his arm sobbing: 'Peter, his blazer—get it out, get it out!'

At first Peter did not understand, and, when he did, he could not believe that I was really asking him to go inside the forbidden circle, right up to the fire, and then to try and pull something out. 'But whatever for?' he asked.

I could not possibly explain, and I had to make him act quickly, so I said the only possible thing: 'I dare you to.' I knew that his honour would never let him refuse a dare, particularly when offered by a mere eight-year-old girl.

He gave me a look of intense disgust, having no delusions as to the danger he would run, from parents more than from flames, and disappeared for a moment. He loomed up again with a used rocket-stick, and, creeping over the chalk-line behind Guy, where there were few people, he was up behind the fire, poking at the blazer sleeves with his stick, before anyone noticed him. He loosened the sleeves, and the blazer fell down in front of Guy, and flared up immediately. Peter was now excited by his task and, running round to the front of the bonfire, he tried to pull the burning blazer into safety. But this brought him into full view of the company, and my father, with a furious shout, rushed inside the circle and dragged him away. A few seconds later Guy fell over, no doubt disturbed by Peter's probing, and the remains of the blazer disappeared completely.

There followed a few minutes of ridiculous confusion, with everyone clamouring round my father and Peter, none of them quite sure what had happened. My father irritably pushed them away, and I could then dimly see Peter's mother, who was half-crying, and my own mother, who was comforting her, saying, over and over again: 'It's all right, it's all right. The boy's not hurt.' My father, whom the sudden shock and the barely averted danger had left far from speechless, was still shouting at Peter, but giving him no time to answer his questions. I hovered as

though hypnotised on the fringe of all this adult excitement. My fear for my brother had disappeared with the blazer, and now I was horrified but intrigued by the pandemonium I seemed to have caused.

EVENTUALLY my father paused for breath after asking Peter once again what on earth he had been doing, and Peter seized the opportunity to say calmly: 'Sally dared me to.' This seemed to me quite just. Of course Peter would expect me to share in any punishment that was to follow. Nevertheless, the sound of my own name uttered in connection with the crime filled me with trepidation, but it was a trepidation not unmixed with pride. I seemed to have set in motion a quite unexpected and important train of events—the evening had broken in the middle, and all because of me . . .

My father gave a snort of surprise and anger and said: 'For heaven's sake, boy, haven't you got enough sense—' and, throwing up his hands in despair, he left the rest of his sentence unfinished.

My mother searched me out and said coldly: 'Come indoors now, Sally.' She did not ask me anything about the incident. I was trembling, and obviously quite beyond giving any reasonable explanation. And how could I have reasoned about a queer moment of primitive panic—a flash of unreason that had passed already into memory? Instead, my mother helped me to undress and wash, and she put me to bed almost without a word passing between us. She left me wide-awake in the darkness, wondering. I wondered if I was seriously in disgrace; I wondered what Peter was doing; and I remembered how the whole evening had suddenly revolved round

my actions, so that even now, indoors, it seemed stranger than any other evening of my life.

My thoughts left me in a state of unresolved excitement. My mood was wavering between one of mortification at my disgrace and one of delight at having shared that disgrace with ten-year-old Peter. Mortification would probably have won, because Peter had gone home now, and it is hard for a child to feel very clearly that she is sharing disgrace or anything else with someone who is not there. So, alone in the dark, I was beginning to feel thoroughly sorry for myself, when my parents suddenly came out into the yard below, probably to clear up a little before the bonfire died completely away, and, forgetting at first to lower their voices, they spoke loud enough for me to hear my mother say: 'Gerald, I don't know what to do about Sally—she's getting as bad as the older ones.' My father's reply was lost to me—it did not matter anyhow. I had heard enough to change the whole evening into a triumph. Parental disapproval was always unpleasant, but its importance faded before this glorious news. I was as bad as the Big Ones! I was classed with them—I was one of them at last. How right Peter had been after all—eight was a wonderful, exciting age to be.

I can still remember clearly my new awareness that I was growing up, and it seems now that the swift passage of time began for me that night. I recognise the girl who lay there, and acknowledge her feelings as my own. My memories go back in a straight line to her, and whereas I think of the eight earlier years as belonging to some child unconnected with myself, on that day this other child became an immature but unmistakable version of the person I have been ever since.

School Dinners—Manchester

*When dinners were only fivepence,
Mi Dad sed: 'Ee, wot a blessin'—
'E'll learn good soshul 'abits
And eat a square meal wi'out messin'.*

*Then when the cost went ter sempence,
Mi Dad an mi Ma looked grim.
Dad sed: 'I'm sure it's school dinners
Wot ain't agreein' wi' 'im.'*

*And now they've gone up ter nimepence,
Mi Dad ses wi' compressed lips:
'Them school dinners ain't worth eatin',
'Ere, gi' the lad threepence fer chips.'*

*Mi Dad an mi Ma are both workin',
Ah cun see nah wot it'll be,
Ah'll 'ave ter stay 'ome fer mi dinners
An' wait fer mi food till mi tea.*

T. C.

The Nobel Prizes

KENRIC HICKSON

ALFRED BERNHARD NOBEL was born at Stockholm on 21st October 1833. His father was Immanuel Nobel, a man of great industry and talent and head of the Nobel shipbuilding and engineering firm. As a child, Alfred did not enjoy very good health. At nine years of age he was taken by his parents to Russia and when he grew stronger was apprenticed in his father's workshop at St Petersburg. Between the ages of sixteen and twenty-one he studied in Germany, France, England, and the U.S.A. He had a flair for languages and when he returned home could speak fluently in English, French, German, Russian, and Swedish.

When a young man he went back to Stockholm with his parents and, encouraged and helped by his father, began to devote himself to the study of explosives. At that time gunpowder was the only material available for blasting-work, but its power was limited, and it was not effective against the harder kinds of rocks. The explosive properties of nitroglycerine had been discovered in France, but it was very unsafe to handle. Alfred's early experiments met with disaster when his brother, Oscar Emil, lost his life in an explosion which destroyed part of the Nobel laboratory. After the accident no further experiments were allowed in Stockholm, but this did not stop young Nobel in his efforts to find a safe explosive. He hired a barge, fitted it up as a laboratory, and anchored it in the middle of Mälär Lake, about two miles outside the town. He struggled on, and after many experiments he took out a patent for the manufacture of a nitroglycerine explosive, but for some years its use still resulted in many accidents.

Then, in 1866, Nobel discovered that kieselguhr, or infusorial earth, had the capacity of absorbing three times its own weight of nitroglycerine—and gave dynamite

to the world. Twenty-three years later he patented ballistite, the first of the high-explosive smokeless powders and a forerunner of cordite. As a result of his discoveries, Nobel, a man of delicate health and retiring manner, amassed a great fortune and became famous throughout the world. During the last ten years of his life he employed twelve thousand people in the manufacture of explosives and became known as the Dynamite King.

Nobel never married and during the closing years of his life he gave much thought to the question of the disposal of his fortune. He did not approve of anyone inheriting, and enjoying, great wealth without effort and made it clear to his relations that they would not receive his money. 'Do not reckon upon my possessions,' he said. 'After my death they will not go into your pockets.'

ON 10th December 1896 Alfred Nobel died at San Remo on the Italian Riviera at the age of sixty-three. His death attracted little attention at the time, but the contents of his will, when they were made known, aroused great interest all over the world. He left his entire fortune, the equivalent of nearly £2,000,000, to establish a prize fund, the interest from which should provide five prizes each year. Four were to be awarded to the persons who, in the preceding twelve months, had contributed most in the fields of physics, chemistry, medicine, and literature. The fifth prize, known as the Nobel Peace Prize, was to be given to the one who had done most in the cause of world peace. The will was interpreted by a code of statutes approved by the Swedish Government and consented to by the heirs.

Nobel entrusted the task of selecting the winners of the physics and chemistry prizes

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to the Swedish Academy of Science, which appoints a committee of five professors to make the final choice. The prize for medicine is awarded by the Caroline Institute at Stockholm and that for literature by the Stockholm Academy. The winner of the Peace Prize is selected by a committee of five members elected by the Norwegian Parliament, but, so that the award shall not become a political issue, no member of Parliament may sit on the committee and the committee's decision, which must be unanimous, cannot be discussed in Parliament. A certain amount of secrecy surrounds the various committee meetings, which are held behind closed doors, and the individual members are known to only a few.

To assist them in their selection, the committees invite nominations, and the names of suitable candidates are submitted by qualified persons, but no candidate may propose himself. In some instances the most unlikely names are put forward—before the late war Mussolini was nominated for the Peace Prize—but outsiders are soon rejected. The total number of names submitted may run into several thousand and the various committees have a difficult task in making their decisions. From the names submitted they prepare a short list, which is handed over to independent experts, who prepare a detailed account of each candidate and his achievements. It is on these reports that the final selection is made, but the reason behind the choice is never published. Although many of the committees' choices have been surprises at the time, later consideration has shown that the committees were right in their judgment.

On the whole, the committees have aroused little criticism, but complaints have been made that they have chosen to make the awards to men already established in their particular spheres, and close friends and acquaintances of Nobel believe that he originally intended to assist the study of young people who showed promise but lacked funds. In fact, Nobel drew up his will without the aid of a lawyer and did not make his intentions really clear. Be that as it may, the average age of prize-winners is, up to the present, sixty-six years.

Physics Prize for his work on X-rays, and, with some exceptions during the war years, the prizes have been awarded annually ever since. The first woman to be awarded a prize was Madame Curie: she shared the Physics Prize jointly with her husband and Antoine Henri Becquerel in 1903, and eight years later was awarded the Chemistry Prize for her work on radium.

Nobel made it quite clear that in awarding prizes no account was to be taken of nationality, and this expressed desire has been faithfully observed. Over the first fifty years Germany gained most honours, followed closely by the U.S.A. and Britain. France has had more literature prizes than any other country. In all, recipients have come from twenty-two different countries and have included Negroes and Indians.

If the committee cannot agree, the prize is withheld and no award is made that year. It is a sad reflection upon the state of the world that, of the five prizes, the Peace Prize has been most frequently withheld. In addition to such well-known names as Lord Boyd Orr (1949), Mr Cordell Hull (1945), Viscount Cecil (1937), Sir Norman Angell (1933), and Sir Austin Chamberlain (1925), the Peace Prize has also been awarded to institutions. For example, in 1904 it was won by the Institute of International Law, six years later it went to the International Peace Bureau, and in 1938 to the Nansen International Office for Refugees. It has been awarded twice to the International Red Cross Committee, in 1917 and 1944, and on both occasions the world was at war. In 1947 it was awarded to the peace-service organisations of the Society of Friends.

Every Nobel prize-winner receives an illuminated scroll giving an account of his achievement, a gold medallion weighing ten ounces, and a cheque for about £12,000. On occasions recipients have given the money to worthy causes—winners are usually world-famous and of some position and the honour means much more to them than the financial gain. Within six months of the award, the winners, unless otherwise prevented, must deliver a lecture giving an account of their own work. These lectures are published each year as a supplement to *Les Prix Nobel*, which contains detailed reports of the prize distribution and brief biographies and portraits of the winners.

Prize-giving is held annually on 10th

THE first award was made in 1901, when Wilhelm Konrad Röntgen gained the

December, the anniversary of the patron's death. The ceremony is usually attended by the King of Sweden, together with members of the Royal Family and representatives of the Swedish cabinet, members of the Nobel family, diplomats, and past prize-winners.

In the evening, at the banquet given by the Nobel Foundation, the guests drink in silence to the memory of Alfred Nobel, the man who gave his name, and his money, to prizes which represent the highest distinction in science and literature—and peace.

The Fox

JOHN GASELEE

WHAT is the truth about the fox in this country? One hears so many conflicting opinions on the matter, and this is mainly due to the fact that the fox is so closely connected with fox-hunting. But, to start at the beginning, we must say that fox-hunting did not introduce the fox to Britain, though the animal does look like an alien. It is always said that fox-hunting preserves foxes and that, but for hunting, the fox would be exterminated. We cannot tell the truth of this bold statement, but my opinion is that there is truth on both sides. There are places where there is no hunting, and yet in these places great measures are still being taken against foxes; on the other hand, there are localities from which foxes would indubitably disappear but for hunting.

Whatever poultrymen and gamekeepers may say, however, I think we should be pleased that such a fine animal still roams wild in our countryside. The fox is, indeed, respected by a great number of people, and his courage is proverbial. He has been nicknamed 'Charlie,' after the statesman Charles James Fox.

THE fox in Britain is *Vulpes vulpes crucigera* and is found in most parts of the country except the Orkneys and Shetlands. One can be fairly sure that this is the only variety of fox to be found here, though a hundred years

ago it was thought that there were at least three different varieties—namely, 'greyhound' fox, 'cur' fox, and 'mastiff' fox. Admittedly there are variations between foxes in different localities, but that is also true of *Homo sapiens* in Britain. For instance, the mountain fox is always supposed to be much larger than the lowland fox, but this is probably only because the mountain fox has much longer legs and therefore looks larger, and also because the mountain fox is left in comparative peace and so is able to reach maturity—at about five years—whereas the lowland fox has to contend with hunting, gamekeepers, and irate farmers, and therefore on average may count himself fortunate if he lives to the age of about 2½ years.

Weights of foxes vary enormously. The average for a fox which is no longer a cub is distinctly over 15 lb., and cases of 30 lb. have been recorded.

A litter will consist of anything between three and four, and the cubs may not resemble each other in the slightest, so that one is often led to believe that two families are sharing one earth. This is, in fact, fairly uncommon, though foxes may sometimes have badgers in an annexe, which is, however, divided off from the earth.

THE fox does enjoy a certain amount of preservation, but that is only so that he

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may be hunted. Even so, many are the attempts to kill the fox in one way or another. Yet he sturdily resists them all, and survives even that awful dread, the spread of urbanisation. Gamekeepers, perhaps without their employers knowing, frequently try to destroy foxes, but they have little success, though in the process there is much cruelty. A fox will bite off a leg which is caught in the teeth of a gin-trap—truly an invention of the devil. During the late war, when there was little or no hunting, fox shoots were organised, as they are also to-day in parts where there are no hunts. But in fact, these often prove far more dangerous for the shooters than for the fox, and very small bags are recorded. The pity of it is that so many foxes must be wounded and in consequence must suffer pain for the rest of their lives.

In the summer of 1951 a Government Committee which had been called to investigate Cruelty to Wild Animals delivered its report, and it appeared to favour hunting for keeping down foxes. We must, I suppose, agree that foxes have to be kept under control, when one considers the damage that they do. If this is the case, then hunting seems to provide a solution, in that the fox is either killed practically instantaneously, or escapes scot-free.

Many of our wild animals and birds that we considered to be nearing extinction are at present staging a comeback, but the fox staged his in the 1920's, which seemed the worst possible time to expect any wild animal to recover. It is therefore pleasing to be able to record that the fox is far more numerous now than he has ever been since the beginning of the First World War. One can hardly say that foxes are numerous in Scotland, but they are there, and it looks as though they are going to stay there.

Before the First World War there seemed to be plenty of foxes everywhere, but with the coming of war fewer hunts were able to carry on, and naturally the foxes had to be destroyed by other means. The destruction appears to have been carried out rather too enthusiastically, for by the end of the war the number of foxes was decreasing very rapidly, and it seemed as though Charlie would be extinct before so very long. The hunts could hardly carry on, and were distressed to kill a fox, but they did carry out some judicious introductions, importing foxes into the most depopulated areas. I doubt whether that could account for the phenomenal increase of foxes

that followed. When every other wild animal and bird (except, incidentally, the buzzard, which showed an increase) was declining rapidly, the fox became more numerous than ever, appearing in districts where it had never been seen even in its heyday. All well and good until the outbreak of the Second World War. Would the same thing happen as during the First World War? It rather looked as though it would, for more notice was being taken of 'vermin,' and now was the chance, while the hunts could not remonstrate, practically to exterminate the fox. But all these efforts at reducing the fox population had little effect. In fact, it seemed as though there was a still further increase.

A POULTRY-KEEPER assumes that all foxes live exclusively on poultry and therefore he is unable to see why foxes should be preserved at all. Certainly one realises that the poultryman has a sound argument, if his basis is correct, but in point of fact it is not. Poultry represent a negligible fraction of the food of foxes generally, but, because there are so many foxes, it is only natural that there should be some losses in the poultry world. In fact, foxes live mainly on rats and rabbits, and are a great help in keeping down the numbers of both of these. The number of lambs taken is in truth very small when compared with the number of lambs that are not taken, or, if that is counted something of a negative argument, when set against the number of lambs that die from any other cause.

Since rats and rabbits are the main constituents of a fox's diet, there is a curious relationship between the cycles of fox and rabbit. When there are few rabbits, the fox population decreases owing to lack of food. As the fox population decreases, so the rabbit population increases. As soon as there are plenty of rabbits, the foxes increase, because there is enough food, and as soon as the foxes increase, so the rabbits decrease.

ONE of the eternal questions connected with foxes must be: Do they mate with dogs—or, for that matter, with cats? It appears as though the fox is a link between the feline and canine species, having certain peculiarities of each, without, in fact, being very closely connected to either. It seems as

though a dog would be quite prepared to mate with a vixen, were the vixen agreeable, and certainly a dog fox would mate with a bitch. It is *most* unlikely that there would be any offspring, although it is said that there have been such in the past. Certainly a cat will not mate with a fox.

I have already said that a fox is the essence of cunning, and it is therefore only natural that there should be many local stories about him, and that countrymen should pit their wits against him. One particular instance where a countryman can make a fox look foolish through the fox's own cunning is seen in a method of keeping foxes away from

poultry-runs. This is what the countryman does. He gets some fairly solid bits of metal, handles them so as to leave his scent on them, and conceals them round the chicken-run. When the fox comes, he smells the hidden bits of metal with human scent on them and, thinking them to be traps, keeps well clear!

Longfellow in *Evangeline* points out that a cold winter is foretold if the fur of the foxes is thick, and an old saying concerning the weather is as follows: 'When foxes bark and utter shrill cries, expect a violent tempest of wind and rain within three days.' But, of course, one can never tell when the fox, with a wicked grin, is making fools of us.

The Morning Tide

*Long before proverbial lark
Salutes the waking day
The breadwinners of England
Are out and on their way,
And half-asleep, jaws munching still,
They hurry for the train—
London's dormitory empire
Is on the move again.*

*From Brighton north to Bedford,
From Oxford to the sea,
Over more than thirteen shires
The human tide flows free,
And, as the pale reluctant dawn
Thrusts back the laggard night,
One by one they pile in
And sit with windows tight.*

*The hardened traveller lights his pipe,
And through the steam-bleared glass
(Privacy must be preserved)
He glares: 'They shall not pass'.
But pass they do, and soon twelve knees
Rub other twelve ahead;
Into this bony undergrowth
The loathsome late must tread.*

*They leave behind prim suburbs
As end draws near at hand,
Then up they struggle to their feet
And on each other's stand.
Heads sprout from every window
And, as the doors swing wide,
Motley, to the barriers,
Sweeps in the morning tide.*

P. J. BELL.



New Hebridean Story

W. B. MACDONALD

TOWARDS the end of last century I was serving as a young lieutenant in a man-of-war patrolling the New Hebrides. One sunny, lazy afternoon we anchored at the mouth of the River Jordan, Espiritu Santo Island. We had been on duty among the islands for many months—monotonous work after the first novelty had worn off, not to speak of the absence of fresh provisions, and we were all delighted when the Captain suggested a seining party in the river. Away we went in a pinnace and two cutters, with the net in the dinghy.

Sailors are delightfully childish, and soon one hundred and fifty of them were stripped and skylarking in the river as only a sailor can who finds himself ashore after being cooped up for months in a hot cruiser in the tropics.

We made two almost Biblical hauls of the seine, when suddenly, near me, a man called out that one of our fellows had dived and had not come up. Immediately afterwards two men, nearer the river mouth, shouted that two other men had disappeared. Not really thinking that anything serious had happened, we nevertheless waded to and fro across the river, nowhere more than five feet deep, feeling for the men with our feet. No luck, however, so we all returned to the ship, and the crew

mustered. Sure enough, three able seamen were missing.

We returned at once to the river. The water had cleared, and there we found the bodies of the poor fellows. We discovered months later that this river was one of the few in the world holding electric-eels. The men, being naked, had undoubtedly been stung and rendered unconscious by one or more of these fish, so had been drowned.

Not only because the natives of Espiritu Santo were cannibals, but also because they would desecrate the graves for the sake of the best superfine blue cloth that covers, and the best white flannel that lines, all naval coffins, the Captain decided to run north to Banks Island, as there was a rumour of an English mission station there, in whose care we could leave our shipmates. We sailed at sunset, a very depressed ship's company. The hammering of the carpenters making the coffins continued through the night, reminding us of our loss.

NEXT morning we approached Banks Island, and steamed into its only harbour. I was sent away in the whaler, and pulled towards the mission hut, but found it

NEW HEBRIDEAN STORY

deserted, and no sign of missionaries or of natives. On my return to the ship we weighed and shaped course for the Torres Islands, a group very seldom visited and lying roughly two hundred miles to the north-east. Before arriving there we had to uncoffin our dead, sew them up in their hammocks, and bury them at sea.

'Sailing Directions', our only guide, admitted ignorance of the Torres Islands, but described the natives as 'the most turbulent of the South Seas.'

We anchored close in to a steep, volcanic, densely-wooded cliff in the clearest, bluest water I have ever seen. Owing to the snow-white coral bottom, every link of our cable, and the very anchor itself, although lying in thirty-five fathoms, was plainly visible. Even the movements of small, highly-coloured fish, sniffing the intruding cable, could be followed.

As we were in an unsurveyed anchorage, the old boatswain was sent away in the dinghy to sound round the ship, and when he was busily employed midway between the ship and shore the wooded cliff sprang into life with invisible natives giving vent to the most piercing war-whoops. This brought every soul on deck—and the boatswain and his dinghy back in a flash.

Though we could see the rustling of the undergrowth on shore, we spotted no natives, but, bearing in mind the 'Sailing Directions', we placed extra watch during the night, but nothing occurred.

Early next morning I was sent in the steam pinnace, manned and armed, to reconnoitre the next island, seven miles away. An hour's steaming brought us close to the island, and I noticed large numbers of natives collecting by the shore. I steamed slowly closer in, and imagine my surprise to find, instead of nakedness and war-paint, that all were clothed in lava-lavas—kilts of fine grass or bark fibre. This pointed to the presence of a missionary, so, telling my crew to discard their arms, we steamed in to the coral-reef.

I STEPPED ashore and, as I did so, the natives made a pathway, down which walked a young Englishman, about thirty-three years of age, dark and handsome. He was clean-shaven and well-groomed, and, in his spotless white flannels and pipe-clayed shoes, appeared as if ready for a tennis party in England.

Advancing towards me, visibly affected, he grasped my hand, saying: 'Welcome to Torres. It is many years since I have seen a white man.'

Taking my arm, he led me from the coral-reef through a delightfully tidy village, so neat and swept-up that I complimented my new acquaintance on its appearance.

He replied: 'Yes—I am expecting a visit from the Bishop of Melanesia.'

'Is he coming soon?'

'I hope so, but I have been expecting him for six years.'

We passed a mat-roofed chapel, and then on to the thatched, one-roomed, sideless mission hut. Here we sat down, the population of the village squatting down outside, actually to see another white man.

You can imagine the questions the man put, after so many years in this remote island, entirely cut off from the civilised world. When I could, I asked him about himself, and how he came to be marooned in such a far-off, inaccessible place. He told me a fascinating story, modestly enough, but I could guess the undaunted, courageous spirit which had carried him triumphantly through so many perils.

It appears he had always wished to be a missionary, and in the most remote islands and amongst the most turbulent natives he could find. So he selected the Torres group, went to Australia, where he embarked on board the missionary schooner *Southern Cross*, and finally gained his heart's desire by being landed stealthily by night on one of the islands of the group. He took with him clothes, a very small folding harmonium, and a large bottle of Bass's Export Ale. This latter luxury he vowed to keep and share with the first white man who should land on his island.

The *Southern Cross*, her duty performed, sailed away, and up to the time of our meeting had not returned.

I cannot describe with accuracy the missionary's first days on the island, except that they were full of peril, but he finally overcame hostility, learnt the people's language, taught their children, tended their sick, built a chapel and taught them Christianity, and changed the population of this particular island into one of the most contented Christian communities imaginable. His thoughts then turned to the other islands.

Now, the Torres group consists of five islands, each about five to seven miles from

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its neighbour, and, very strange to relate, canoes are unknown. The islanders never had any, an old native legend forbidding them.

The missionary's next island for operations was the one I had come from that morning, and off which my ship was now anchored. Having had no canoe, the missionary had swum the seven miles, accompanied by a few converted elders. With such a good introduction, his work was rendered comparatively easy. At the time of which I write, two islands out of the five were Christianised, the children, some hundreds, swimming to school the seven miles on Monday mornings, and swimming back for the week-end on Friday afternoons, and, although these waters abound with sharks, no child was ever harmed. No doubt there was safety in numbers.

The war-whoop we had heard aboard, the night of anchoring, had been a whoop of welcome, and not of war.

I RETURNED to my ship, and the Captain having heard my report weighed and moved the ship, and anchored off the missionary's village.

That night, I dined on shore. We sat on the floor, in the middle of the mission-hut. For dinner we had yams, made into a sort of porridge, eaten with a tortoiseshell spoon—a rounded end to eat with and a sharp end to scratch the head with. The long-treasured bottle of Bass was opened at last, and drunk with great solemnity. It was excellent.

The natives, during our dinner, had gathered in great numbers, and were squatted round the hut, watching the master with a dog-like devotion in their eyes. After dinner, a very venerable old gentleman approached and spoke to my host, who, turning to me, said

the natives wanted to know if I could play the 'music box' in the chapel.

I said I could play three hymns, so we flocked over like children to the chapel—a strange, earnest congregation, naked to the waist. I played those three hymns over and over again till midnight, the congregation singing native words wonderfully well. The whole thing was a great success.

We stayed five days, our boats busy bringing off the natives and showing them, for the first time, the wonders of our ship—engines, heavy guns, electric-light, and so on, while at the missionary's request our torpedo-party had made a small harbour by blasting away a portion of the coral-reef with guncotton. We knew, and no doubt the missionary did too, that many a long year would pass before a boat's keel would grate in that little harbour.

I walked several times alone and unarmed through the forest, receiving nothing but interest and politeness and exchanging boxes of matches for beautiful bows and arrows. The bows were inlaid and spliced with different woods, while the arrow-heads were made of the small shinbone of fallen enemies, delicately carved.

On the day of our departure we sent our recent host a case of brandy and a case of port, to replace the vanished Bass. The Captain, thinking the missionary would appreciate a holiday, offered him a passage to New Zealand, and promised him a return passage in another man-of-war.

I can see the missionary's face now as he replied: 'Leave my people? Leave this life? Not for all the world has to offer!' Then, pointing towards the horizon: 'Besides, I have three more islands to conquer.'

And so we steamed away—to hear no more of him from that day to this.

Quiet

*I had a thought the other day.
It came to me, then went away
I know not where. I could not say
The thought I had the other day.*

*It was a kindly gentle one,
And I was sorry when 'twas gone;
It may return, I hope it may,
The thought I had the other day.*

*And now when'er my heart is low,
And how to speak I do not know,
I wait and quietly try to say
The thought I had that other day.*

H. R. DAFFIN.

Twice-Told Tales

XLVII—Monkey Vengeance

[From *Chambers's Journal* of November 1854]

I WAS climbing one of the slanting ascents of the Runmundle cliff when I became aware that an unusual commotion reigned amongst my friends the monkeys, which had by this time got so familiarised with my appearance that they seldom condescended to honour me with a snarl, or a bough flung towards me in sport. I was conscious that something went wrong with them; and as I knew that sentiments of superstition, if not of humanity, preserved them from the persecutions of the natives, I became curious as to the cause of the prevalent excitement. Creeping round a rock, I at once found myself on the stage of a strange tragedy in simian life. In the voluminous folds of an enormous boa constrictor was being slowly inwrapped a beautiful brown monkey, whose last cries and struggles denoted that I came too late, even had I been prepared to do battle with the reptile in the cause of oppressed innocence. The monkeys, in evident alarm, ran hither and thither, moping and mowing, and chattering; but not one advanced near the spot, where presently their poor companion became almost quite hidden from view in the embraces of its destroyer.

Determined to watch the process of the affair, I quietly sat down, until gradually the monkey had been moulded, as it were, into a proper condition for deglutition, for I could hear the bones crack as they broke beneath the pressure to which they were subjected; and ere long, as the serpent began to untwist its folds, I could admire at leisure the magnificence of its glittering scales, that shone like some richly variegated metallic substance. I shuddered as I beheld its grand and awful head—the prominent orbits of the eyes—and the eyes themselves large, and luminous with a fiery light. The creature was at least twenty feet in length, and was apparently famished by

a long fast. Perfectly heedless of the noise made by the monkeys, it unwound its coils till the victim, now an unrecognisable mass, lay before it lubricated and fit to be received into the destroyer's stomach.

When the reptile had fairly commenced its repast, and the before flaccid body began to fill and swell, I retired from the arena of conflict and hall of banquet, desirous of summoning my friend Noor-ood-Deen to assist me in capturing the sated giant. I knew that when gorged to repletion, there would be no difficulty in making a prize of the serpent; and the moonshree entered into my plans right willingly. Accompanied by a stout lascar, bearing a strong cudgel and a sharp knife, for slaughter and skinning, we lost little time in reaching the scene.

The boa constrictor lay, thoroughly gorged, and like a log of wood, beneath the same projecting mass of cliff where I had left it. On the summit of this rock a troop of monkeys had assembled, and three or four of the largest and strongest were occupied in displacing an immense fragment of the massive stone, already loosened by time and the elements, from the rest of the ledge. This mass almost overshadowed the reptile. By enormous exertions, made in a silence that was rare with them, they at last succeeded in pushing it onwards until it hung over the boa's head, when uttering a fierce yell, in which every separate voice mingled until it took a diapason of undescrivable discord, by a vigorous movement they shoved it sheer down. The heavy mass fell right on the serpent's head, crushing it as if it were a cocoa-nut; and as the reptile lashed its fearful tail about in the final struggles of life, we could not refrain from joining in the singular chorus of rejoicing with which the monkeys now celebrated their accomplished vengeance.



The Sacrilege

A. G. P. PULLAN

MANY years ago I came from Jaipur to Benares, and was installed upon my throne to receive my daily worship. Many things have I seen with my three eyes, and many things have I heard with my wide-open ears, but I cannot write them down, for I am a marble image of the god Ganesh, and although I have four hands, none can use a pen. I write therefore by the hand of my priest, who imbibes wisdom at my feet, for though I have the innocence of a child, I am wise with the wisdom of my elephant head and the snake about my neck, and by the blessing of Brahma I am the patron of literature and fine writing.

He who writes was not always my priest. When first I came, a devout woman owned this house, and it was she who dedicated it to me, the idol of Ganesh, and endowed also two villages to provide for my worship. It was she who first hung garlands of jasmine, basil, and marigold round my neck and arms, and draped a robe of yellow silk shot with gold about my loins, and appointed my first priest, who washed me with water and anointed me with oil, and painted my toes and fingers with henna, and made offerings of rice and sweetmeats. She too each year brought me some ornament of gold, an

armlet or a bracelet or rings for my arms and ankles and hands, and lastly she bound my tusk with golden wire. Morning and evening the priest Ramdas blew a note on the sacred shell which lay beneath me, and rang my bell and offered me cakes, and replenished with sweets the cup which I hold in my left hand. Thus no evil came near the house, and every week ten Brahmans came and were fed sitting before me.

BUT the good woman was old and grew feeble, and when her time had come her soul departed, and her body was burned and her ashes were scattered on the river. But Ramdas remained, for he was appointed my manager by a binding deed, and was entrusted with my care and worship, and twice a year he went to the villages and gathered in money with which to buy all things for my needs. For two days he would be absent, and he hired a guard to keep me safe till he returned. He came back in time to prepare the weekly dinner of the Brahmans. For this he took flour and spices from a tin box which he kept in the inner room behind my throne, and once every month a portion of molasses was added to the meal.

THE SACRILEGE

For two years Ramdas was faithful, but when he returned the fourth time from the villages he brought with him a woman. She came robed in white, her head discreetly covered with a veil, and she spoke softly and promised faithful service. But when the Brahmins came they looked at her askance, and one who was old and pious reproached Ramdas and said: 'Why have you brought this woman here? She is young and fair to look upon. She has no place in the service of the idol. How can we eat food prepared by her?' But Ramdas said: 'I cannot serve the idol alone, and I have in charity brought this poor widow from the village. She is of the Thakur caste and virtuous. You may eat the food cooked by her. See, it is ready.' And the Brahmins ate the food and found it good. But I knew within me that the woman was evil, and Ramdas would often go into the inner room where she was, and stay with her.

DAILY Ramdas became more idle. He neglected his devotions and cared for earthly pleasure. One day a youth joined the household, whom he called his disciple, and when the ten Brahmins came next for their dinner they found the youth giving the flour from the tin box for the woman to cook, and Ramdas explained that he was getting old, and that he was training this disciple to carry on the work when he was gone.

Thus it came to pass that when Ramdas went to collect the rents in the autumn season the disciple was entrusted with my service, and the woman was with him, and they laughed and talked together, and in the night they slept in the inner room.

But when Ramdas returned they were respectful to him and performed their duties, and the Brahmins came weekly and ate their food and were satisfied.

In the springtime the priest prepared for his journey, and he bowed himself before me and asked for my blessing; and I saw the woman standing on one side of him, and the disciple on the other; and the woman nodded her head, and the disciple took from behind him an axe, and struck the priest even as he prayed, and his blood was spilt on my carpet. Then the youth looked up at me and cried: 'He sees, he sees!' and the woman said: 'Be quiet, fool. He is but a stone image. He

feels nothing,' and here she struck me with her open hand, 'but, if you are afraid, let us drag the body from before him.' And they dragged Ramdas into the inner room.

THREE days later the Brahmins came. The youth told them that the priest had not yet returned from the villages. But the flour was ready, and the woman cooked the meal, and the Brahmins ate and suspected nothing.

For the next week the woman and the youth lived in the house, but they neglected my worship and often glanced at me and whispered together. Still, on the day that the Brahmins were coming they put fresh sweets in my bowl, and made a pretence of decking me with flowers as usual. Then they prepared the food and when the Brahmins came carried it out to the door and offered it to them to eat. But when they were about to seat themselves one said: 'What is the strange odour?' And the youth said he thought it was a dead rat. Then the Brahmins got up and refused to eat, for they feared that the dead rat might betoken plague, and they went out leaving the food untouched.

It was in the night that those evil ones committed the deed of sacrilege. The youth still feared, but the shameless woman took from me my gold rings, my bracelets and armlets and anklets, and the gold wire from my tusk, and even stripped me of my garment. Then they wrapped all the brass vessels in the carpet and carried everything away.

The next week was the full moon, and when the Brahmins came they cried out about the stench. Then they saw that the woman and the youth had gone, and one said: 'They may have fled from the plague, but perhaps they have left the molasses,' and he went to look in the inner room. But when he opened the door he called out: 'The box is there, but it is open and tied with a rope.' And when he gave it a pull some thick dark fluid issued forth. 'The molasses must have melted in the heat,' he said. But one wiser and older than he said: 'No, my son, that is not molasses. There has been foul work, and none must touch the box till the police come.' And when an officer came he found in the box the dead body of Ramdas, with his head and one arm severed that he might fit in better. When he saw how I had been robbed, he seemed to think it of less

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moment than the merited death of one who had been false to his faith, and remiss in his duties.

Thus I was left robbed, naked and alone, with none to wash and tend me or bring me rice and flowers. My conch was not blown and my bell was silent.

Then after many days another was appointed to manage the property, and when the priest who writes these words came and did worship, I knew that I had found a good and faithful servant. First he washed me with water, and renewed the henna on my hands and feet. Then he anointed me with

oil, and hung the flower garlands about me. On the same day my gold ornaments and brass utensils were restored, and I got a new robe and a new carpet, and my priest blew my conch and rang my bell. And when the ten Brahmins came for their dinner as of old, they said that the shameless woman had been found wearing my gold ornaments and my beautiful dress, and seated on my carpet, still stained with the blood of my priest. And they said, too, that the disciple had been hanged, and the woman sent to prison. But she was the guilty one who robbed me of my gold and defiled my dress.

Harnessing Bacteria

T. S. DOUGLAS

IN a factory near Darlington millions of workers are employed on the task of producing a special kind of starch. These workers have a 24-hour working-day, never go on strike, and ask for nothing more than the right food. They are bacteria, and their work is to turn sugar into dextran, a special kind of starch which is of great value as a substitute for blood plasma. The factory is now producing some twenty thousand pints of this starch a month, an indication of the extreme usefulness of this substitute, now that demands for transfusions in cases of shock and burns are liable to be greater than could be met by supplies of natural blood. In the event of some great catastrophe, with thousands of people requiring transfusions, the substance produced by these bacteria would probably be instrumental in saving many lives. Only this particular kind of starch is effective, and it can be produced, at any rate on a large scale, only by employing these harmless bacteria, called *Leuconostoc mesenteroides*, to bring about the fermentation.

MOST people think of bacteria as invisible enemies of man, responsible for many of his commonest and most unpleasant diseases. In fact, the number of harmful bacteria is comparatively small. If we extend the group to include all micro-organisms, the number that are helpful is probably greater than the number that are harmful, and in recent times an increasing number have been deliberately harnessed to carry out the production of chemicals which could otherwise not be produced at all or would be very much more difficult and expensive to manufacture.

The most publicised of these micro-organisms have been those that secrete substances inhibiting the growth of harmful bacteria. Fleming discovered *Penicillin notatum*, found that it secreted a substance he called penicillin, which inhibited the growth of *Staphylococcus* bacteria and paved the way for the work of Florey and his colleagues, which gave medicine perhaps its greatest triumph in the 20th century. Since then many other micro-organisms which

HARNESSING BACTERIA

produce drugs inhibiting the growth of harmful bacteria have been discovered. Chemical engineers, faced with quite new problems in designing factories where the millions of workers were invisible, solved countless problems and have made the mass-production of chemicals with the aid of micro-organisms an everyday affair. Each micro-organism has its own special requirements in the way of nourishment, temperature, and environment, but, given these, becomes a willing worker, providing valuable short-cuts in the manufacturing process.

The work of bacteria for industry is now so varied and important that the Department of Scientific and Industrial Research keeps an industrial bacteria collection, with about forty different kinds of micro-organism and some five hundred different strains. The micro-organisms in this zoo are, of course, kept alive, each receiving its own special food. Some, when not required for experimental work, can conveniently be put into cold storage, from which they emerge after weeks or months of suspended animation quite healthy and ready to go to work. One advantage is that most micro-organisms, given the right conditions, reproduce themselves at a great speed and so recruiting labour, once usefulness in large-scale production is discovered, becomes comparatively simple.

A recent addition to this zoo has been bacteria from a North African lake, which, it is hoped, may in the future play an important part in the manufacture of sulphur, an element with many roles in the chemical industry. These bacteria work on compounds of sulphur and produce the pure element. When the bacteria were discovered performing this function in the lake, their possibilities for the chemical industry, which has been suffering from a shortage of sulphur, were appreciated. Their disadvantage for this purpose was the slowness with which they worked. Reasonable speed is essential for the economical use of micro-organisms in industry, otherwise large-scale production calls for tanks or other containers of prohibitive size. It has been hoped that the production of new strains that work faster will get over this disadvantage.

factures, has, of course, long been manufactured for man by micro-organisms, and organisms produce acetic acid and vinegar from the alcohol. The choice of the micro-organism to a large extent decides the flavour of the vinegar.

One of the most striking examples of the use of micro-organisms in industry for the economical production of a chemical is that of citric acid, which is used extensively not only in the manufacture of soft drinks and confectionery, but also in various forms in the manufacture of plastics. Until about thirty years ago nearly all the citric acid was produced from lemon juice, and Italy with Sicily had a virtual monopoly in its production. In the 'twenties, Italy sought to take advantage of this monopoly by squeezing manufacturers who required citrates and this gave new stimulus to work, that had been going on for many years, on methods of producing citric acid without the aid of lemons.

About fifty years ago a German chemist had discovered that a mould he called *Citromyces* would feed on glucose or cane-sugar and produce pure citric acid. He believed that his discovery would make his fortune, but when he came to repeating his laboratory manipulations on a commercial scale he was defeated by the technical problems involved, as the mould required special conditions to produce citric acid instead of other chemicals. Research continued and other moulds were found which would carry out the operation. In the end it was one called *Aspergillus niger* which was found most satisfactory and the Italians' attempt in the 'twenties to exploit their monopoly resulted in great efforts to overcome the technical problems. Special strains of the mould were developed, large-scale plant designed in which the most exact control could be kept of the temperature, the acidity of the medium, and other factors.

Large-scale plants were built in the United States and in Britain and the effect was seen in 1927 when the United States, one of the biggest importers of citric acid from Italy, ended all imports. A micro-organism harnessed by chemists had defeated Mussolini. Interestingly enough, in the end the Italians themselves took up citric acid production with the aid of micro-organisms, because it was more economical. Large-scale production in Britain began in 1929.

One of the fascinations of this harnessing

ALCOHOL, which is the basis not only of drinks but also of many chemical manu-

of micro-organisms is that the product can be varied according to the conditions. It is almost as if by turning up the central-heating a little, altering the air-conditioning, and changing the menus in the canteen, the workers at a factory started turning out washing-machines instead of motor-cars. The citric-acid fermentation under different conditions was found to produce a substance called gluconic acid, which was believed to have a great future in medicine and in the treatment of animals. Perhaps not all the expectations have been fulfilled, but the brilliant work that went into the development of large-scale plant for producing gluconic acid was of great importance because of the technical advance it represented.

Without going into technical details it can be said that large-scale apparatus was designed in which the spores, instead of forming a mat on the surface, were spread through the solution, supplied with air, and, because of the greatly increased surface in contact with them, gave a very much higher yield. The fermentation was completed in hours instead of days and there was a great saving on space compared with the fermentation of an equal volume in pans. This technique of using the micro-organisms submerged in a solution that is agitated proved to be of immense value when the time came to develop mass-production of penicillin and other new products of moulds.

APART from the production of new chemicals and drugs, the greatest triumphs in the harnessing of micro-organisms in the future may come through using them to restore fertility to the land. Everywhere, in the digestive organs of every living creature, in the earth, in any piece of organic matter which is moist and warm, bacteria are always at work, breaking down complex substances into simpler ones, which in turn may be used by other bacteria, and, finally, if they become available, as food for plants. It is bacteria, of course, that work in the gardener's compost-heap and in the course of a few summer months turn a pile of leaves and vegetable

waste into a brown, crumbly, sweet-smelling compost which is invaluable and for which chemical fertilisers are no substitute.

Every year civilised countries spend many millions disposing of household garbage which is buried, tipped, or otherwise rendered harmless. Only a minute fraction of its organic matter goes back to the earth from which it came, with the result that over the centuries the earth has been impoverished. Now scientists are working on methods by which this organic garbage can be turned into the same sweet and clean compost as the gardener makes in his heap, but on a large scale and in a very much shorter time. The secret is the selection of the right strains of bacteria to carry out the work.

In a pioneer plant in Oakland, California, where over a hundred tons of garbage a day are treated, a mixture of some forty or fifty bacteria, carefully chosen and cultivated, is used. About one spoonful of the culture is introduced into each ton of garbage after it has been freed of paper, metal, wood, and other inorganic material and thoroughly moistened. The garbage is piled up and the bacteria work on it very rapidly. Most of the fermentation is completed within no more than a week and the compost may actually be back on the land within weeks of the vegetable matter which has been its basis being cut.

The large-scale manufacture of compost presents problems—not the least of them being the preference of many farmers for chemical fertilisers, which are simpler and less bulky to handle. But the indications are that in the not distant future a smaller proportion of our garbage will be wasted.

Another very interesting possibility arises through the existence of bacteria which are able to break down cellulose into food. These bacteria are the secret of the wood-eating insects. Scientists are hopeful that the study of these bacteria may result in the development of processes by which they can be used on a large scale for turning sawdust and other wood waste into edible and nourishing material for farm animals and possibly even human beings.

Science at Your Service

FLAME-GUN DISPOSAL OF VEGETATION

THE disposal of unwanted vegetation or waste stubble by flame-gun treatment may be over-drastring in some agricultural opinions, but there are circumstances when this method has much to commend it. Neglected pieces of land that cannot be brought into productive use, paths, drives, or genuinely productive land that has become very severely weed-infested or infected with pests or plant disease organisms, these are all examples of flame-gun suitability. The combustion of organic matter, instead of its conversion into humus, is not likely to be a serious loss to fertility in such circumstances. Many practical people would give the flame-gun a wider role than this, adding the tasks of weed destruction before crop sowing or between well-spaced rows of crop plants, but here its use may be looked upon as a more controversial recommendation. A special advantage of flame-gunning is that weed seeds as well as weeds are destroyed, so breaking the continuity of weeds, a well-worth-while proceeding in view of the scarcity of labour at the present time.

A British engineering firm has recently introduced a flame-gun machine, a two-wheeled hand-pushed appliance which carries the flame-gun in a near-ground position, at a controllable angle. The flame-gun is well-hooded, so that the stream of flame and heat is directed to the ground in front of the machine, and it is possible to work quite near bushes and plants without scorching them, if one keeps moving. The flame-gun can, however, be removed for separate use with or without the hood; also, the gun can be raised or lowered to give an adjustable burning-height and burning-range. Two models are manufactured, a model with a single flame-gun, which gives a 12-inches-wide flame-path, and a dual model for two flame-guns, which gives a 24-inches-wide path. The prices for both are moderate, and this mower-like means of using the flame-gun seems well worth the consideration of larger land-owners, estate managers, etc.

AN ANTI-RUST PAINT

Iron and steel are materials man has wrested from iron-ore, and rust is evidence of the element's constant tendency to return by oxidation to the ore form. Paint is one of the best defences against rusting, not because a paint film excludes oxygen and water perfectly, for, in fact, most paint films can be slowly penetrated, but because the movements of ions on the metal surface are retarded and the electrochemical processes that cause rusting are in consequence greatly inhibited.

For many years paints based upon red lead as the pigment have been considered to be among the best of the rust-preventing paints for iron or steel structures. One of the well-known paint manufacturers of this country has now developed a paint based upon yellow lead, or, in more precise chemical terms, upon lead cyanamide and this is claimed to be superior to red lead paints. This substance reacts with atmospheric acids such as sulphur dioxide, carbon dioxide, hydrogen sulphide, etc., and also with the acidic decomposition products of linseed oil; these rust-encouraging substances are neutralised into insoluble and inactive substances. The pigment is in a needlelike crystalline form, so that the applied paint film, when dry, has a tightly-interlocked structure of high strength. It is easy to apply and should take less labour and time than red lead paints. It is also claimed to be more economical per square yard treated. It is no more toxic than any other lead-based paint.

Exposure-tests of the paint both in this country and on the Continent have shown that the new paint's rust-inhibiting properties are outstanding. As with all paints of this type, of course, the surface to be treated should be dry and as free as possible from existent corrosion and from oil or grease contamination. No paint film can be expected to prevent corrosion from stimulating substances that are enclosed by the film itself. Rust prevention is a dual operation of surface-cleaning and painting.

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A DELIVERY SAFE FOR TRADESMEN

A safe for delivering tradesmen to place food into is a new device well worth the consideration of those who are having or contemplating having houses built. A steel frame is fitted into the house wall. Behind this is a revolving drum divided into four compartments enabling four different deliveries to be received. The safe door is curved and recessed and, as it is spring-loaded, it cannot be left open accidentally. Shutting the door automatically locks the compartment just filled and engages the next and empty compartment; when all four compartments are filled, the safe is then automatically locked and can only be opened from inside the house, through a rear door operated by a knob at the top of the safe. The dimensions are approximately 20 by 17 by 18 inches and the front flange is 22 inches long and 19½ inches high. The safe can, of course, be fitted into houses already built, but ideal positioning and the lowest fixing costs will be more readily achieved with houses in the course of erection. In these days of vanished domestic staff, architects might give this new British product special consideration in their planning.

A NEW LAWN-RAKE

The present period seems to be unusually prolific of new gardening tools and products, and among the latest to be offered is a self-cleaning lawn-rake. This has two rows of tines, one row being made of the bent wire usually employed for lawn-raking, the other of bent steel-strip. The wire tines pass through the gaps between the strip tines; indeed, the latter can be regarded as a comb, for they are joined together in the framework of the rake just above the point where the wire tines pass through the gaps. When the rake is lifted, spring action forces the comb of broad strip tines down to the level of the wire tine teeth, thus removing all attached leaves, etc. This simplifies one of the tedious chores of lawn-raking, for considerable time is spent trying to shake the wire tines free from pierced leaves or encircling stems. Lawn-raking is a frequent autumn task in gardens containing trees and it must be carried out when diminishing hours of light severely curtail the average gardener's timetable. This new rake, which is sold with or without a handle at a very reasonable price, should be a boon to week-end gardeners.

A SCALE-SCOOP

A strong hand scoop that incorporates its own weighing mechanism, scaling up to 5 lb., would seem to have a variety of potential uses in industry and trade. The weighing mechanism is recessed into the body of the scoop and is protected from contact damage by enclosing plates: it is adjustable by turning a nut, and there is a locking catch that puts the weighing mechanism out of operation when the scoop is merely required for use as a scoop. The scoop is made of rust-proofed steel: it has a square mouth and flat bottom to facilitate movement over flat surfaces.

POWER FROM SUNLIGHT

The conversion of sunlight into useful power has long been sought. It is virtually free, as far more light than is ever utilised for energy falls upon the earth. The main obstacle to development has always been the low efficiency rate of conversion. Quite recently one of the best-known American electrical companies has developed a new sunlight-generated battery with a conversion-efficiency rate of 6 per cent.; this is promisingly high, for most photo-electric devices have reached an efficiency rate of no more than 1 per cent. at the best.

The battery is based upon silicon, and highly pure silicon crystals are first produced; into this refined form of silicon certain minute impurities, at present unspecified, are allowed to diffuse, and they take up positions just below the crystalline surface. As a result, innumerable positive and negative junctions are created, and when this treated silicon is shaped into wafer-thin strips it is exceedingly light-sensitive. With a series of razor-blade-sized wafers linked together, about 50 watts of electricity can be produced per square yard of surface exposed to sunlight. One of the first experimental models was successfully used to operate a small mobile radio-transmitter. It is already reported that these batteries will soon be used on American rural telephone lines at various points where stepping-up amplification is required. The initial cost of production would seem to be the only significant cost involved. There are no moving parts to wear out, and silicon wafer photo-batteries should last indefinitely. It must be pointed out that batteries of this kind, so far as is known at present, are not available in Britain; up to now this is an entirely American development.

SCIENCE AT YOUR SERVICE

SURER SHAVING

A new electrical outfit will interest men who travel abroad and who rely upon an electric-shaver. This consists of a transformer-adaptor with interchangeable British, Continental, and U.S. flat-pins, and also three other junction adaptors—a two-pin, a bayonet type, and a Continental screw fitting—thus altogether covering most possibilities of connecting the shaver with the mains supply in any country of the world. The various adaptors are housed in an attractive case. With this new shaver, the travelling businessman, used to electric-shaving, need not be forced to turn to the razor-blade method from time to time.

PROTECTIVE CLOTHING

Protective coats and overalls, resistant to acids or caustic substances, are needed in many branches of industry and in occupations where corrosive chemicals are frequently used or handled. Chemistry has provided an answer for this chemical risk, and an enterprising British firm is now offering a range of protective garments made from various synthetic fibres. The virtue of synthetic fibres in this field is that they possess greater resistance to corrosion—though it is necessary to choose the appropriate synthetic fibre to fit the particular corrosive risk. Nylon has high resistance to alkalis. Terylene is resistant to acids and organic solvents, but is damaged by alkalis. Polyvinyl chloride fibre has excellent general resistance and is the best choice for chemical laboratory clothing. Polythene also possesses good general resistance and is perhaps fairly assessed as a cheaper runner-up to polyvinyl chloride. However, each material has its special virtues and special limitations, and the British firm is making protective clothing from all of them. Technical advice on the best choice for meeting particular conditions in a laboratory, factory, shop, or warehouse is readily available. The materials made from these synthetic fibres are mainly white, but some are available in colours and even with attractively-quiet patterns.

A NEW RUBBER AND NEW USES

In recent months wheelbarrows and buckets made from rubber have been described in these notes. This introduction of rubber into a new constructional field seems likely to have many possibilities, and it is based upon the development of plastics-rubber compounds. In broad terms, the mechanical strength of rubber can be increased by introducing the phenolic resins on which one section of the plastics industry is based; at the same time, the flexible and durable properties of rubber are retained. This new type of rubber is not merely a mixture of plastics resin and natural rubber—it is a genuine chemical combination produced by chemical processing. Industrial and domestic articles made from the new material are likely to be somewhat dearer than similar articles made from metal; but the articles will offer greater resistance to corrosion by acid and possess virtual immunity to atmospheric corrosion, as well as showing lower weight, flexibility to withstand damage by blows, quietness in handling, and having much greater strength than most plastic-based articles. Where these properties are important, articles made from the new phenolic rubber can be expected to justify their higher price with ease.

Among the industrial uses now being experimentally studied are barrows, cement-mixer hoppers, acid containers, etc. In the household field, dustbins, buckets, coke and coal hods and scuttles, and grass-boxes for lawnmowers are receiving early attention as particularly suitable applications. It should be stressed that at present these are developments still being pioneered by British industry and in general the marketing stage has not yet been reached. The production capacity for the new rubber material must first be increased, though this aspect of development is already reported to be well in hand. In the relatively-near future it would appear that familiar factory and household articles made from the new phenolic-rubber compound can be expected to become increasingly available.

TO CORRESPONDENTS who wish fuller information regarding new inventions, publications, etc. mentioned here, addresses will be furnished, when possible, if (and only if) a stamped addressed envelope or postcard for a reply be sent to the Editor, *Chambers's Journal*, 11 Thistle Street, Edinburgh. To avoid delays, requests of this kind from correspondents abroad will be forwarded to the manufacturer or agent if stamps, postal orders, or imperial or international reply coupons are enclosed for the purpose. The issue of the *Journal* and the heading of the paragraph in which the object of inquiry is described should be given in order to facilitate reference.

Winter Precautions

THE proverb says: 'A wise man bears misfortune with equanimity.' Unfortunately, however, it is true to say that far too many of the misfortunes that affect the gardener during the winter are due to his own carelessness or mistakes. It is as well, therefore, at this time of the year to take the right precautions before a very hard or maybe very wet winter sets in. We have to be ready for whatever nature may bring forth.

Let us say it is going to be wet. Then it is very important that we should make arrangements to remove the excess moisture by getting out V-shaped drills on either side of the rows of plants that are doing their best to grow and crop during the winter. There is the winter spinach, for instance, which can easily rot off with too much moisture, but V-shaped drills a couple of inches away from the rows will ensure that the plants are growing on little mounds, and therefore their 'toes,' so to speak, will be dry.

On the other hand, there may be a very frosty winter, and cold winds may blow across the garden or allotment and do a great deal of harm. In this case much can be done to break up the cold winds and prevent them from being too serious a nuisance simply by pushing little twiggy sticks in on either side of the rows. It is surprising what these will do. If the market-gardener finds wire-netting useful in this way, as he does, then home gardeners can use their old pea-sticks with great effect.

Of course, an excellent winter precaution is to use the flat-topped cloches known as 'Gannicks' to cover rows of crops or even individual plants. These give exactly the right type of protection—and they are self-ventilating also.

Leeks have a nasty habit of being attacked by the leaf-tip disease. The foliage turns white in colour, and then it ceases to be of any value to the plant. The trouble invariably starts because some of the leaves are drooping down and are touching the soil. It pays at this time of the year to prune the leaves back, to burn the infected tips, and

then to dust all the plants with a copper-lime dust at the rate of about three ounces to the yard run. Such a dust can be bought from any good horticultural chemist. A second dusting may be given three weeks later, and yet a third dusting a fortnight after that.

One of the great problems about growing late savoys is that a slime may develop on the hearts of the plants. This very often occurs when the soil is loose, and it pays, therefore, to go along the rows and give a really good treading. Then take a sharp knife and cut off all the yellowing leaves, which ought to go on to the compost-heap. Lastly, give a good dressing of carbonate of lime, throwing this carefully underneath the plants and not on them, at the rate of about seven ounces to the square yard.

Celery can easily be attacked by the soft rot, which invariably enters the plants through wounds made by slugs, snails, or woodlice. Prevent these pests, therefore, from damaging the plants by dusting along the rows with a good D.D.T. powder and then poisoning the slugs and snails with bran and powdered metaldehyde. This can be put in little heaps the size of an egg every few feet along the rows, and to stop the rain from washing the chemical away place a small piece of slate or tile over the heap to act as a kind of umbrella.

There are some crops which are improved by frost. Brussels sprouts are a typical example. Parsnips are another. A touch of Jack Frost's fingers makes a celery nuttier and sweeter. Do not be persuaded, however, to leave the parsnips in the soil for this to take place; you can always lift them and put them in a heap on top of the ground. There they will be washed by the rain and sweetened and made more tender by the frost. They never come to any harm when treated in this way.

I shall be glad to help readers with their gardening problems. Write to me through the Editor, kindly enclosing a stamped addressed envelope for the reply.

W. R. SHEWELL-COOPER, M.B.E., N.D.H.

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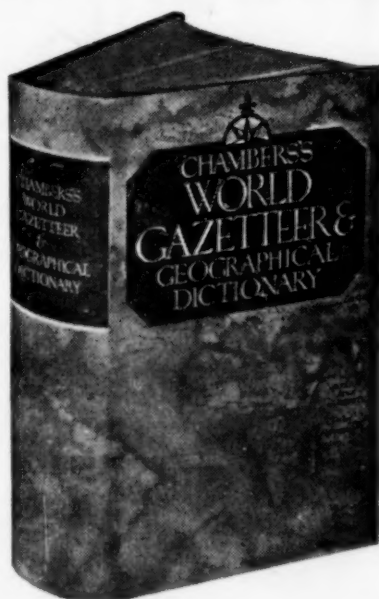
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